

PRINCIPLES OF MONEY AND BANKING

BY

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PREFACE TO THE FOURTH EDITION

In preparing the fourth edition of Professor Kilborne's "Principles of Money and Banking" I have endeavored to preserve the strongest features of his earlier work, which for many years occupied a leading position in the college textbook field. However, the sweeping monetary and banking changes of recent years have required that much of the book be rewritten, and that the rest of it be thoroughly revised. Chapters III, V, VIII, IX, XI to XVI, XVIII to XX, XXII, and XXIII are entirely new with the exception of an occasional paragraph. Considerable new material has also been woven into the remaining chapters.

Those familiar with the previous edition will observe certain changes in organization and emphasis. The subjects of money and banking are regarded as being so inextricably interwoven that they should be developed together, rather than in separate parts. In keeping with this view, increased emphasis is placed on the monetary aspects of banking throughout the book, and treatment of factors governing the price level is postponed until after consideration of the banking system.

The subject of foreign exchange is accorded less space and is treated after, rather than before, commercial banking. Former users of the book will also notice that more space is devoted to banking, and that a preliminary description of the structure and functions of the Federal Reserve System is undertaken at an early point. This procedure has the advantage of enabling one to weave central banking into the analysis step by step, rather than presenting it at the end as a more or less separate phenomenon. Also, by this arrangement illustrative material relating to the Reserve System may be advantageously used throughout the discussion of banking.

A definite attempt is made to avoid making the book a compilation of facts with respect to institutions, legislation, regulations, and detailed practices. Such descriptive material is included only insofar as it is essential to a full grasp of basic principles and

issues. Primary emphasis is placed on the monetary and banking system as an operating, functioning organism, and on its relations to the price structure and the economic order as a whole.

Charts, tables, and other statistical devices are used freely for the purposes of supporting conclusions, stressing relationships, and providing an adequate factual background. The charts have been drawn so that the student may, as an exercise, extend them through 1939.

I am deeply grateful to my father, Mr. George W. Woodworth, and to my colleagues, Dean H. V. Olsen, Professors Herman Feldman, J. W. Harriman, and R. V. Leffler, for critically reviewing the manuscript and offering many helpful suggestions. Thanks are also due to Miss Margaret D. Pierce, who has rendered skillful aid in preparing the index. Above all others, however, I am indebted to Mrs. Woodworth for generous and constant assistance.

GEORGE WALTER WOODWORTH.

HANOVER, N. H.,
September, 1937.

PREFACE TO THE FIRST EDITION

Designed primarily as a textbook for courses in Money and Banking in American colleges and universities, *Principles of Money and Banking* is intended to be useful to other readers as well. Based largely upon seven years' experience in and experimenting with such a course, it represents an attempt to approach the subject from a broad point of view and to build upon the foundation laid in a beginning course in the principles of economics. Stated in another way, it is based upon the theory that it is more important for the student to know Money and Banking as a subject of economics in general than it is for the student to know just what the commercial bank, for example, will do for a business man.

While this book is divided into four parts, a certain unity has been maintained. This unity is to be found in the relationship between Money and Banking on the one hand and prices on the other. That prices are the pin pricks which motivate and regulate economic activity is a subject no longer open to debate; and that Money and Banking exert a powerful influence upon prices and, consequently, upon economic welfare, has been proved conclusively by the events of the World War, although it was generally recognized before that event. Consequently, this book considers Money and Banking in their relation to price phenomena.

Perhaps the most important difference between this and similar texts is to be found in the fact that emphasis is placed upon fundamentals rather than upon facts, upon principles rather than upon structure. Structure and facts have been introduced in many places to illustrate principles and fundamentals, but have not been considered as ends in themselves because they frequently change over night. Examples of such changes are to be found in the reserve requirements placed upon national banks at the present time as contrasted with the reserve requirements imposed upon them under the provisions of the old national banking law. Or, to consider European experience,

the facts regarding the notes issued by the new Reichsbank are quite different from the facts about those issued by the old Reichsbank. In other words, these new legal provisions are much different from the old and, consequently, any attempt to inculcate the student with a vast array of facts without first analyzing the principles must sooner or later prove to be of little or no avail.

In addition to the above mentioned differences between this and other books covering the same subject, this book devotes more space to money and to foreign exchange because questions in these two fields are continually recurring from time to time. Doubtless most teachers of Money and Banking thought twelve years ago that the question of the paper standard was more or less of a dead issue and that our Civil War experience in issuing paper money was interesting only as a matter of history. Of course, the recent European issues of paper money with all their devastating effects showed quite conclusively that such is not the case.

Foreign exchange phenomena have assumed a new importance in view of the tremendous fluctuations in foreign exchange rates as well as the increase in our foreign trade and the growth in our foreign investments. Consequently more space has been devoted to this subject than is to be found in most textbooks on Money and Banking.

In writing this book I have drawn upon material supplied by writers in various publications. I feel under a special obligation to Dr. B. M. Anderson, of the Chase National Bank, for many of the excellent pamphlets he has written; and I have drawn upon two of them in writing Chapter XI. My classmate and colleague, Professor Ray Victor Leffler, of Dartmouth College, has contributed freely from his banking and academic experience; and Mr. E. T. Dickinson, now of the National Shawmut Bank, has been kind enough to read the manuscript and make suggestions. My deepest debt is to my wife, whose help lightened the task.

RUSSELL DONALD KILBORNE.

HANOVER, N. H.,
April 6, 1927.

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CHAPTER I

THE DEVELOPMENT OF PECUNIARY VALUATION

The development of pecuniary valuation is not merely the title of this chapter. In a very real sense it is the subject of the entire book. The early chapters deal primarily with the evolution of modern monetary arrangements. There follows a description of the commercial banking system with special emphasis placed upon its monetary functions and the principles that govern its operations. The final chapters are concerned with foreign exchange, *i.e.*, the external value of money, and with noncommercial banking institutions.

I. VALUES AND PECUNIARY VALUATION

We are all acquainted with various kinds of values. "Mona Lisa," for example, has a high aesthetic value. The Gutenberg edition of the Bible has a rare typographic value. Carbohydrates have a high food value. The creeds and rituals of the church have a distinct spiritual value. Pecuniary value is a highly developed species of the value genus.

Pecuniary values make it possible for us to compare various values objectively. The use value of a typewriter, the aesthetic value of a copy of "Mona Lisa," the food value of sugar are thus all comparable by means of a single medium—money.

Pecuniary valuation has not developed in the form of an ascending line but, on the contrary, has been marked by progress and regression, by rises and declines. With the beginning of written history in Egypt, Babylon, Mexico, Peru, and other countries, we find men using copper, silver, and gold for currency; buying and selling on a large scale took place; contracts were made; and borrowing and lending of money was extensively practiced. The invention of coinage is said to have been made in Asia Minor about 700 B.C., and the Phoenician traders carried this idea around the Mediterranean world. This development reached a high point in Rome. Coinage, extensive use of bills

of exchange, speculation among the loiterers gathered around the famous Roman baths, bank transfers, and loans to foreign governments were all common in the heyday of the Roman Empire. But with its decline, pecuniary valuation, like other aspects of Roman culture, suffered, with a profound effect upon the future of Western civilization.¹

The revival since that time is still shrouded in uncertainty. We do know that the Italian cities reached a high level in pecuniary attainment after the capture of Constantinople by the Turks in 1452, and that supremacy seems to have passed to Spain, southern Germany where the Fugger family flourished, France, and the Low Countries. London appears to have displaced Amsterdam as the great financial center in the eighteenth century. By a very slow process money came to be substituted for payments in kind, paid soldiers appeared in the army, and the inflow of silver from Spain helped to produce a price revolution. Later on the added importation of the precious metals gave a powerful stimulus to commerce and trade; the goldsmiths appeared and performed banking functions. By the seventeenth and eighteenth centuries, banking, insurance, manufacturing, colonizing, and trading were the chief forms of business activity. The Bank of England received its charter in 1694, and the London Stock Exchange was organized in 1783 to trade in securities.

When our country was settled, the settlers brought with them the idea of a money economy with which they had been familiar. But the exigencies of living in a new and rough country forced them to make the best use of the scanty money material at their disposal. Beaver skins, tobacco in Virginia, and wampum were used for measuring values. These sufficed for the purpose until the land could be cleared, food and clothing obtained, and the

¹ William Linn Westermann, *Warehousing and Trapezite Banking in Antiquity*, *Journal of Economic and Business History*, November, 1930, p. 50; M. Rostovtzeff, *Social and Economic History of the Roman Empire* (New York, Oxford, Clarendon Press, 1926), pp. 169-171. Money economy and exchange in kind continued to exist side by side in Greece and Egypt; it was not until the first two centuries of the Roman Empire that money economy became predominant. The Roman Empire spread Greco-Roman culture throughout western Europe; and this culture included an economic system based primarily upon exchange in coined money. Paper money as we know it was not used in the Roman Empire, although debasing of the coinage was practiced.

simpler and more important wants satisfied. In effect, the settlers had to start afresh, although it did not take long to secure the appurtenances of a money economy on the eastern seaboard. But each succeeding wave of migration to the West had to fight the battle over again.

Pecuniary valuation has developed both extensively and intensively. As the barbarous or semicivilized peoples of the world have been influenced by Western civilization they have as a result been brought under the sway of pecuniary valuation. The tribes in darkest Africa, the natives of Tibet, and the Orientals have in the last century felt the influx of Western civilization, and with it the development of a system of prices. Ivory, for example, is secured for a price. So are the rugs of Arabia, the sugar of Hawaii, and the silk of China. This addition to the geographical field of pecuniary valuation makes it possible to compare more accurately the values of commodities the world over.

But pecuniary valuation has also developed intensively. That is, in countries where it has for some time been applied to definite and tangible things, such as a pound of sugar, a ton of coal, an automobile, and the like, it has reached out and extended its sway over some of the intangible things.¹ A man's character, a lady's honor and affection are frequently recognized by the courts as having a money value. The law relating to libel is bound up with money values. In addition, new inventions and development of the higher wants continuously extend the field.

The function of values in general is to motivate human conduct. The function of pecuniary valuation is to get men to react against their environment in such a way as to produce the goods and services necessary for the satisfaction of human wants and to direct consumption along economic lines. Stated in another fashion, our economic society is organized and regulated by a system of prices. If I want some gasoline for my automobile, I can secure it for a price. If I want to improve my game of golf, I can secure the services of a professional who will for a price show me the weaknesses of my game. The price that I pay and others pay for gasoline and for the services of the golf teacher insures that these wants may be satisfied. It is so with all the material

¹ For a most illuminating study of pecuniary valuation see C. H. Cooley, *Social Process* (New York, Charles Scribner's Sons, 1918), pp. 283-348.

things of life. They have been placed at our disposal through the price system.

However, it is important to note that we can satisfy our wants only by paying a price. Price under our industrial system is expressed in terms of money. One must have money to secure the things one wants. Our activities, therefore, are concerned largely with getting money. It is the same in business, where more attention is paid to making money than to making goods. One need not be deeply steeped in economics to know that the income of a railroad corporation is more important than its traffic statistics, because the income account is expressed in dollars and cents while traffic statistics are stated in ton-and-passenger miles. Our whole economic system is based upon the desire to make money.

This process of pecuniary valuation, then, rests upon money. It may be well, therefore, to show how money has been evolved by a gradual process.

II. BARTER

Trade, so we are told, took the form of barter in the early days when there was little division of labor and no wide markets. Barter is the direct exchanging of one commodity for another without so much as even comparing the values of the two commodities in terms of money. Of course, the savage who traded a skin for a bow and arrow thought that the bow and arrow were more important to him than the skin, and the man who got rid of the bow and arrow thought that they were worth less to him than the skin. Otherwise, the trade would not have taken place. But these comparisons were really subjective valuations—the values of the goods traded were not measured in terms of a common denominator.

Many of the so-called cases of barter are really not examples of barter at all. For instance, we read that barter is still resorted to when an investor exchanges a \$1,000 convertible bond for 10 shares of common stock of the same corporation which issued the bond. Or we are told that barter exists when a farmer brings 10 dozen eggs to a village store and trades them for four pairs of hose. But actually such transactions do not represent barter because the values of the things traded have been appraised in terms of dollars and cents.

The insuperable drawbacks of barter may be more clearly realized from a simple example. Let us assume that a savage has a club that he wishes to trade for a canoe paddle. He may have little trouble in finding someone who wants the club, but he is likely to find great difficulty in locating a tribesman who desires in addition to dispose of a paddle. This is usually referred to as the double coincidence of barter. There is also the further problem of agreeing upon acceptable trinkets with which to make change if the paddle is the more valuable of the two.

It is clear that the development of a specialized, exchange economy with organized markets would be an utter impossibility under a barter regime. When silk, for example, is grown in Japan, manufactured in Paterson, New Jersey, and worn by a lady in Walla Walla, Washington; when sugar is grown in Cuba, refined in Brooklyn, and consumed in Canada; when thousands of industries with more thousands of subdivisions are in existence—barter simply will not work.

III. COMMODITY CURRENCY

It seems reasonable to think that the use of commodity currency was the next step in the development of pecuniary valuation. Under such a system, a common commodity serves as the basis for measuring the importance of goods traded. These commodities have differed at various times and in various countries. We are all acquainted with the use of wampum by the Indians as a measure of value. Cubes of tea are said to have been used in Russia, and blocks of salt in Egypt. Romans and Greeks, so we are told, measured value in terms of cattle. In fact the word "pecuniary" is said to have come from the Latin word, *pecus*, meaning "cattle."

Gradually the drawbacks of these various commodities were revealed. A cube of tea or a block of salt deteriorates quickly when passed from hand to hand. Iron, used in Sweden, wears well, but it is too bulky. Tobacco is not only bulky but is not homogeneous. Owing to such defects, the precious metals came to be used for measuring values and making exchanges almost as soon as a money economy began to emerge.

IV. LAWFUL MONEY

While it is true that many writers term commodity currency "money" by basing their definition of money upon its functions,

it is quite reasonable to say that real money did not emerge until governments specifically set aside certain coins or notes and made them a legal means of payment. Money as we now understand it did not emerge until strong central governments came into being. Money is used primarily for effecting the exchanges. It has been coined or printed for that purpose. It is specifically endowed with certain qualities, the most important being that of legal tender. These commodity currencies, on the contrary, had a use, and their most important use, in other ways. Cubes of tea, for example, are useful for making tea; that is their chief outlet. But coined money is useful for nothing else but for making the exchanges. The minute it is melted down it is gold or silver bullion, not coined money. Consequently, it is best to think of money as something specifically set aside by governments to perform the exchanges.

One reason for using the precious metals is that they have been almost universally utilized for a long time as articles of ostentation. The desire for adornment is just as deep-rooted in the movie actress as it is in the Hottentot. Gold and silver, but especially gold because of its color and luster, had long been used for making articles which satisfied this love for display. Consequently, these metals came to be used as money. Their continued use rests largely on convention, though both metals, and especially gold, have certain qualities which peculiarly fit them for use as money.

V. ESSENTIAL QUALITIES OF A GOOD METALLIC MONEY

A metallic money should, if possible, possess each of the following qualities: (1) stability of value, (2) acceptability, (3) portability, (4) homogeneity, (5) divisibility, and (6) suitability for coinage, *i.e.*, impressibility, cognizability, and durability.

Probably the most essential of all these features is that the metal have a relatively stable value. Large changes in prices create serious maladjustments throughout the whole economic system. In particular, their effect is to change the real terms of all long-term money contracts represented by bonds, mortgages, bank deposits, insurance, leases, etc. A metal chosen as the monetary standard should minimize rather than aggravate changes in the level of prices.

Money material should be universally acceptable. It should be wanted by everyone, for otherwise its service as a medium of exchange would be impaired. Gold and silver were held in general esteem before they were used as money, but their adoption as money gave them even more complete acceptability.

Portability as applied to the material used for money means that a large quantity of money should be easy to carry. The need for homogeneity may be seen from the difficulty of using wheat for money. There are several grades each one of which has a different value. One bushel of one kind of wheat is worth more than a bushel of another kind of wheat. An ounce of pure gold, on the contrary, is always equivalent to another ounce of pure gold.

The quality of divisibility implies that the money material should be capable of separation into various parts without losing its value. A raccoon coat, for example, can be divided into the various skins which compose it, but each skin is worth less than its fractional part of the coat. This is not so with gold, because an ounce of gold is worth exactly one-twelfth as much as a pound. It does not lose value upon subdivision.

Finally, if the money metal is to be used in actual circulation, it should be adaptable to coinage. This means that there should be no serious difficulties in impressing the government stamp upon the various denominations of coins; that the money should be distinctive in appearance in order to prevent counterfeiting; and that the coins should show great resistance to the wear and tear of circulation. Otherwise, the losses from abrasion and the expenses of frequent recoinage would be large. It should be observed, however, that suitability for coinage is no longer a factor of much importance on account of the modern practice of using paper money for hand-to-hand currency and holding the money metal as a reserve in bullion form.

VI. FUNCTIONS AND USES OF MONEY

Money has two important functions: it serves as a medium of exchange and also as a measure of value. In a very important sense, these two functions are interdependent because money cannot serve as a medium of exchange unless it is also used as a measure of value. An illustration will make this point clear. Money acts as a medium of exchange when a carpenter exchanges

his labor for \$7 a day and then proceeds to spend his \$7 for the goods he wants at the time he wants them—say for a pair of shoes. This transaction is thus really a two-headed one: first, exchanging his labor for money; and, second, holding or keeping that money until he spends it for the goods he wants. Now how is the carpenter able to compare the relative values of a day's labor and a pair of shoes? Because money serves as a yardstick to measure the value of his labor on the one hand and the shoes on the other. Value may be thought of as a quality or attribute of goods just as weight or size. And just as we use ounces and pounds to measure weight, and inches and feet to measure length, so we use money to measure value.

Money may also be used as a measure of value without being used as a medium of exchange. In fact, many of the incorrect examples of barter are illustrations of money performing the function of a measure of value. Consider again the case of the farmer who brings to the village storekeeper 10 dozen eggs and gets in exchange four pairs of hose. How is it that he gets just four pairs of hose? Because both the storekeeper and the farmer know that eggs are selling for 20 cents a dozen and hose of the type the farmer wants are selling for 50 cents a pair. Money has measured the value of the hose and the eggs, and the farmer and storekeeper then proceed to exchange them without using money at all. Likewise, when we read in the papers that the Standard Gas and Electric Company is willing to exchange one and two-fifths shares of its common stock for one share of the common stock of the Philadelphia Company, we also discover that the reason for the particular ratio in the exchange is to be found in the prices of these two securities.

As an incident to its two basic functions, money serves certain subordinate uses. One of these is a debt medium and standard. The outstanding indebtedness in money terms in the United States exceeds \$150,000,000,000, not to mention a large amount of other money contracts, such as leases. Since probably over two-thirds of such contracts exceed ten years in length and many exceed fifty years, great injustice obviously results from any material change in the value of money.

Another subordinate use to which money is put by its very nature is that of providing liquid reserves with which to meet regular and unexpected expenditures. Each individual and

business firm finds from experience what part of income or assets is needed as a fund of immediate debt-paying power. Ordinarily this reserve is kept as small as possible in view of the competing demands upon income for consumption and investment.

A final and closely related use of money is to store values. If people believe that prices are going to fall, they attempt to convert assets that are likely to depreciate into bank deposits and hand-to-hand currency. They are thus seeking to store a greater proportion of their assets in the form of money than is called for by the need of reserves for expenditures. Such a shift accentuates the price decline, so that each unit of money *stores* a greater value than before. Money hoarding sometimes assumes a panicky and spectacular form. Fear of the banks, as in 1931-1933, leads people generally to convert deposits into gold and lawful money. Once underway such a movement rapidly gains momentum. For example, between the last quarter of 1930 and March, 1933, money in circulation rose from \$4,500,000,000 to \$7,532,000,000. Over \$2,200,000,000 of this increase occurred in the two months preceding the final collapse in March.

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CHAPTER II

A TYPICAL MONETARY SYSTEM

This chapter deals with a typical monetary system, with chief emphasis placed upon the United States. In one sense there is no such thing as a "typical" monetary system, because the system of one country differs to a greater or less extent from that of every other country. This difference is due to the haphazard growth of almost all systems. It is chiefly the result of adapting the monetary system to meet special emergencies, military or political. We have in our system the "greenbacks" and the British had until recently their "currency notes," both of which were issued to meet war emergencies. The current issue of silver certificates illustrates how a monetary system is influenced by a political compromise. Despite these differences, however, there are certain common elements or fundamentals, such as the monetary unit, the ultimate monetary standard, bank notes, and subsidiary coins, in almost every monetary system.

I. THE MONETARY UNIT

All measurement requires the use of some basic unit, such as the foot, the pound, or the gallon. For convenience, also, the primary unit of measurement has designated subdivisions and multiples, *e.g.*, the inch and the yard. A similar arrangement is needed in the field of value. In order to measure quantities of value, a unit of account must be provided for the monetary system. In England this unit is the pound; in France, the franc; in Germany, the mark; and in the United States, the dollar.

The monetary unit, together with its subdivisions and multiples, is often called "the denomination system." Convenience in making small purchases requires the penny, nickel, dime, and half dollar. Similarly, large payments lead to the issue of paper currency in denominations as large as \$10,000. It is best, as in this country, to set up the denominations on a decimal basis. Calculations are thereby simplified as compared with the English

penny which is the equivalent of $\frac{1}{12}$ shilling or $\frac{1}{240}$ pound. Table 1 shows a classification by denominations of the hand-to-hand money in circulation in the United States.

TABLE 1.—MONEY IN CIRCULATION IN THE UNITED STATES AT THE END OF NOVEMBER, 1936, CLASSIFIED BY DENOMINATIONS
(In millions of dollars)

Coin.	
Silver dollars	37
Subsidiary silver	334
Minor coin	141
Paper currency.	
\$1—bills	492
\$2—bills	33
\$5—bills	900
\$10—bills	1,548
\$20—bills	1,486
\$50—bills	390
\$100—bills	690
\$500—bills	132
\$1,000—bills	258
\$5,000—bills	7
\$10,000—bills	23
Total money in circulation	6,466

SOURCE: *Federal Reserve Bulletin*, January, 1937, p. 49. Hand-to-hand money outside the United States Treasury and the Federal Reserve banks.

II. THE ULTIMATE MONETARY STANDARD

The keystone of the monetary system of every country is the *ultimate monetary standard*, which may be defined as that something which anchors the value of the monetary unit. This definition is very broad, because "that something" may be a certain quantity of metal or metals, a paper note, or even a price index. The phrase "that something" includes any or all of them. In the United States it is a lump of standard gold weighing $15\frac{5}{21}$ grains; in England it is now (1937) a paper pound. This ultimate monetary standard may or may not be coined. While most countries coined the standard metal before the World War, few have done so since. The modern practice is to keep the metal in bars in the central bank or treasury as a final reserve against credit moneys in actual circulation.

The relationship between the ultimate monetary standard and

ship between the gallon and liquid measure. There are in any country a large number of objects used for measuring liquids—bottles, barrels, vats, tanks, and the like. The liquids they contain are measured in terms of gallons. How are we to be sure that these containers can have their capacity evaluated in terms of the same unit—the gallon? If this evaluation cannot be made, the measure ceases to be a real measure because the unit (the gallon) may mean different things. Uniformity of measurement is accomplished in this case by providing that under certain conditions of temperature and air pressure the weight of a gallon of distilled water shall be 8.33 pounds. We then say that 8.33 pounds of such distilled water is the standard for liquid measure in the United States.

The case of the ultimate monetary standard is somewhat similar. There are in circulation in the United States various kinds of money—national bank notes, Federal Reserve notes, silver certificates, silver dollars, bank deposits, etc. How is it that these different kinds of money are kept equal in exchange value? It is not by the intrinsic value of the money itself, because the silver in the silver dollar is worth less than 100 cents as metal, and the paper is worthless except as money. None the less, when we buy goods these different kinds of money are treated all alike—a dollar of each one buys the same quantity of goods. How is this brought about? The answer is that all the various kinds of money are tied to the ultimate standard, usually by the device of interconvertibility, both among themselves and with the standard.

This analogy emphasizes the true purpose of a good ultimate standard, *viz.*, to give assurance that all units of circulating money and deposits shall have a relatively stable purchasing power.

III. RESERVE MONEY AND CIRCULATING MONEY

One of the most useful classifications of the monetary stock of a country is into reserve money and circulating money. Each of these in turn may be broken down into various subdivisions for different purposes.

1. RESERVE MONEY

Reserve money is that part of the monetary stock which is kept by the government treasury, the central bank, and commer-

cial banks as a reserve against the credit moneys that actually serve as means of payment. In the United States this consists of gold and silver bullion and other lawful money held by the Treasury, gold certificates and lawful money held by the Federal Reserve banks, and the vault cash and legal reserve deposits of the commercial banks. At the end of November, 1936, the Treasury held reserves of \$12,483,000,000 composed of \$11,200,000,000 of gold, \$1,270,000,000 of silver, and a small amount of other kinds of currency; the Federal Reserve banks held total reserves of \$9,028,000,000 of which \$8,769,000,000 consisted of gold certificates and the rest of other cash; and the commercial banks of the Reserve System maintained reserve deposits with the Reserve banks of \$6,785,000,000 and held cash in vault of about \$700,000,000.

In considering these reserves, however, one should avoid double counting. The final reserve is the gold and silver held by the Treasury, upon which rest the gold certificates and other cash of the Reserve banks, and one step further removed, the reserves of the commercial banks.

If a country is not on a metallic standard, the reserve money may consist of legal-tender notes of the government or central bank, and deposits of the latter. Thus, in early 1937 the notes of the Bank of England constituted the reserve of the Banking Department, and the reserves of the London joint-stock banks were represented by deposits and notes of the Bank of England. Yet neither the deposits nor the notes were convertible into gold.

The chief function of reserve money is to assure the solvency of the institutions issuing circulating credit moneys in the forms of notes and deposits. It is especially important that all dollars of the monetary supply have identical value, whatever their form may be. Adequate reserves aid in realizing this aim. Another function of reserve money is to serve as a means of settling both domestic and international obligations among banks. Such obligations may arise from interbank loans and security purchases, but they are to a larger extent a result of the failure of credit claims (mostly checks) to strike a balance. When countries are on the gold standard, the gold reserve becomes the final means of settling international accounts. As in domestic trade, the counterclaims largely offset each other, but whatever balance remains is usually settled by gold.

As long as a country meets freely all foreign claims upon its gold reserve, it remains upon the international gold standard. But should it cease to pay in gold, as did most nations during the period 1931–1933, it cuts away from gold in favor of some form of managed standard.

2. CIRCULATING MONEY

The circulating moneys are those that are actually employed in effecting the vast volume of payments for goods, services, and securities from day to day. They thus enter actively into the price determining process, whereas reserve moneys are too aristocratic to be buffeted about in the market place—preferring instead to rest at a safe distance in a purely supporting role. There are two kinds of circulating money in existence, *viz.*, hand-to-hand currency and bank deposits. Each of these performs a specialized monetary service.

a. Hand-to-hand Currency

Hand-to-hand money is used in making small payments, mainly in the fields of retail trade and wages. For larger payments checks are far more convenient and safe, with the result that in the United States only about one-tenth of total payments is made by currency. This dominance of the check is characteristic of the English-speaking world, but on the continent of Europe currency still remains the more important medium.

The amount of hand-to-hand money in the United States exceeded deposits until just before the Civil War. But after the war the rise of deposits was rapid. By 1890, there existed about \$2.50 of circulating deposits to \$1 of currency. Since then the trend has continued until now a normal ratio between them is about 6 to 1.

Kinds of Hand-to-hand Money.—In Table 2 is shown the composition of circulating currency in the United States on two recent dates. It is evident that the silver, which is being steadily acquired by the Treasury under the Silver Purchase Act of 1934, circulates mainly in the form of silver certificates. People prefer paper currency to the heavy “cartwheels,” the name frequently given to silver dollars. The item “subsidiary silver” includes dimes, quarters, and half dollars, while “minor coin” refers to pennies and nickels. Total coin, it should be observed, repre-

sents but a small part—about 8 per cent—of all currency. The rest is in the form of paper money.

The bulk of paper money takes the form of Federal Reserve notes which now constitute about 70 per cent of all paper money. This proportion, moreover, should soon approach 90 per cent upon completion of the retirement of national bank notes, Federal Reserve bank notes, and gold certificates. The Federal Reserve notes are a safe and flexible form of currency. They are direct obligations of both the Government and the issuing Reserve bank. "Gold certificates" may be thought of as warehouse

TABLE 2.—KINDS OF HAND-TO-HAND MONEY IN CIRCULATION ON SELECTED DATES
(In millions of dollars)

Kind of Money	Nov. 30, 1935	Nov. 30, 1936
Silver dollars	34	37
Subsidiary silver	309	334
Minor coin	130	141
Total coin	473	512
Gold certificates	110	96
Silver certificates	812	1,051
Treasury notes of 1890	1	1
United States notes	284	289
Federal Reserve notes	3,612	4,156
Federal Reserve bank notes	68	45
National bank notes	487	316
Total paper money	5,373	5,954
Total coin and paper	5,846	6,466

SOURCE: *Federal Reserve Bulletin*, January, 1937, p. 49 "In circulation" means outside the Treasury and the Federal Reserve banks

receipts for gold bullion held by the Treasury. Each \$10 certificate is a claim upon $(10 \times 15\frac{5}{21})$ grains of standard gold. The certificates, however, have not been legally in circulation since 1933. Most of them are held by the Federal Reserve banks.

"Silver certificates" are similar to gold certificates, except that they represent a claim upon silver dollars on deposit at the

Treasury. There is also the further difference that the silver in a silver dollar (371.25 grains of fine silver) is worth much less than the face value of the coin—only about 28 cents in fact on the basis of the price of silver in January, 1937.

The "Treasury Notes of 1890" date back to the Silver Purchase Act of 1890 under which the Treasury was directed to issue them in the purchase of a certain amount of silver each month. Practically all have now been retired or are held by collectors.

The "United States notes" or "greenbacks" were originally issued to finance the Civil War. A part of them was retired after the war, but in 1878 their amount was fixed at \$347,000,000, where it remains today. A gold reserve of \$150,000,000 has been earmarked for their protection since 1900.

The "national bank notes" have been an important element of the currency since the National Bank Act was passed during the Civil War. They were issued by the commercial banks holding a national charter and were backed by Government bonds pledged with the Secretary of the Treasury. During the summer of 1935, however, all United States bonds bearing the circulation privilege were called by the Treasury. The national banks redeemed their notes at that time and thereby shifted the liability to the Treasury where it has since resided. The notes are gradually being retired as they wear out. A similar retirement policy is being applied to the "Federal Reserve bank notes" which were issued during the banking emergency of 1933.

Subsidiary money has certain important characteristics. Such money is invariably made of a less expensive metal than standard money, for the convenience of the user. Imagine the difficulty of looking through one's pockets for a gold dime! The subsidiary coins are also short in weight. Thus, the silver in the quarter is worth less than 25 cents, the silver in the half dollar is worth less than 50 cents, and so on. This limitation in weight is to prevent such coins from being melted if the value of the metal in the coin advances. For example, assume that a government puts 50 cents worth of silver into a half dollar at a time when silver is worth 80 cents an ounce. If the price of silver advances to 1\$ an ounce shortly thereafter, then the silver in the half dollar is worth more than 50 cents, with the result that the coin would be melted and the silver sold for its bullion value. This has happened at different times in different coun-

tries. During the World War period the silver in the Philippine peso was worth 73 cents as metal, though its gold value was 50 cents. The result was inevitable: many of these coins were exported to China because of their greater exchange value. Hence, governments wisely limit the weight of subsidiary coins to insure that they will be kept in circulation.

Two other characteristics of subsidiary money are designed to preserve its value. First, when the gold standard is maintained such coins are redeemable in gold if assembled in proper amounts. Second, subsidiary money is coined only on government account. Free coinage of such money might result in a redundant supply, perhaps sufficiently large to cause gold to be ejected. Restriction of coinage aids in maintaining its parity.

Legal Tender. Since the Joint Resolution of Congress in June, 1933, all forms of circulating currency have been full legal tender. That is, they constitute a legal means by which a debtor may discharge any money obligation. Before 1933, there were only three kinds of money that were full legal tender, *viz.*, gold coins, silver dollars, and gold certificates. All of the other forms possessed only partial legal-tender power.

In the great mass of day-to-day money payments, the question is seldom raised whether the money is, or is not, legal tender. In fact, most payments are made by checks, which are thus an acceptable though not a legal tender. Nevertheless, it is highly important that some part of the circulating money be made a legal means of payment. For example, in case of dispute between a debtor and a creditor over the amount of an obligation, the former may stop interest and court costs by an offer of legal tender, provided the amount offered is subsequently found by a court to cover the obligation.

The question of what is legal tender also comes sharply to the fore when a change in the monetary standard takes place. For instance, the majority of bonds outstanding in 1933 contained a clause specifying that they were payable in gold coin of the weight and fineness in existence on the date when the obligation was contracted. This was designed of course to protect the creditor against an inflationary change of the standard. In June, 1933, however, Congress passed a Joint Resolution that abrogated this gold clause of money contracts. This permitted debtors to discharge their obligations in legal-tender dollars that

were depreciated some 40 per cent in terms of gold. Subsequently, the Supreme Court upheld the constitutionality of Congress' action. There was in this case, however, no real hardship imposed upon the creditor. The legal-tender dollars, though badly depreciated in terms of gold, were still more valuable dollars than those originally loaned.

Standard Money. It has been traditional to designate the highest form of money as "standard money." By this is meant the money that either embodies or most closely represents the monetary standard. Before the World War, when most countries coined gold, the gold coins were the standard money. If they were represented in circulation by gold certificates, the latter were also included in the standard money category, or were, at least, thought of as quasi-standard money. But modern monetary practice is fast removing the significance of this distinction. Gold is no longer coined, and the tendency is for all circulating paper currency to be represented by central bank notes with full legal-tender power. The distinction may continue to be useful, however, as between such notes on the one hand, and subsidiary coins and bank deposits, on the other.

Coinage and Printing of Money. The ancient art of coinage was dealt a body blow by the change in monetary practice brought about by the World War. Paper currency has now largely replaced metallic money in the leading countries, except for small change. Even if most nations again return to a gold basis, it is not very likely that gold will be coined. Instead, it will be held by the central bank or treasury in the form of bars. The greater part of the huge gold hoard of the United States is now lodged in this form in the newly constructed Government vault at Fort Knox, Kentucky.

In deference to the historical importance of coinage, brief mention should be made of certain practices, rules, and terms. Although private coinage was allowed in the United States until the Civil War, a complete government monopoly is desirable, and in fact exists in all leading nations. Otherwise, no trust can be placed in the weight and fineness of coins, and they become little more than lumps of bullion that must be assayed and weighed before acceptance. The three mints in the United States are located in Philadelphia, Denver, and San Francisco. In addition, the Government maintains assay offices in seven cities.

If the mint stands ready to coin any amount of the metal offered, coinage is said to be *free* or *unlimited*, in contrast with coinage *on government account* or *limited* coinage. For example, in the United States the coinage of subsidiary money is limited, while the coinage of gold was formerly unlimited. When the face value of coins exceeds the bullion value plus the expense of coinage, the government makes a profit known as "seigniorage." Such a profit is made on all our silver coinage. All or part of the actual expenses of preparing and coining the metal are referred to as "brassage." The prewar practice of gold-standard countries was to take no seigniorage profit on gold coinage but to levy a brassage charge covering all or a part of the actual mint expense. When no charge is made for the coining of standard metal, *i.e.*, metal refined, alloyed, and ready for coinage, the coinage is said to be "gratuitous."

The guiding specifications of a good coinage system are: (1) that the coins be of convenient size; (2) that they be alloyed in such way as to resist the wear of circulation; (3) that they be designed to prevent counterfeiting, and clipping; and (4) that they bear an appropriate and artistic official stamp.

Similar considerations govern the manufacture of good paper money. Counterfeiting should be avoided by the construction of paper and by the intricacy of design. The design should also be distinctive and uniform so as to facilitate the detection of counterfeits. In addition such currency should be durable, should be convenient in size, and should meet aesthetic requirements. All paper money issued in the United States is manufactured by the Government Bureau of Engraving and Printing in Washington. D. C.

b. Bank Deposits

We have already indicated that, although bank deposits are not legal tender, some 90 per cent of actual money payments is made by the common bank check. Only the checking accounts, however, belonging mainly to individuals, business firms, and governments are really money. Since time and savings deposits cannot be checked upon, they do not afford a direct means of payment. Rather, they simply represent forms of indirect investment. The checking accounts, then, are the real money deposits which we may also call circulating deposits. At the

beginning of 1937 their amount in the United States may be roughly estimated at \$27,500,000,000¹ as compared with about \$5,500,000,000 of hand-to-hand money outside the Treasury and the banks.

IV. FULL-BODIED MONEY AND CREDIT MONEY

The monetary stock may also be classified upon the basis of whether the value includes an element of credit. The only full-bodied money in the United States is the gold bullion held by the Treasury and represented by gold certificates. That is, the value of the gold represented by a \$100 gold certificate is \$100; no more, and no less. At the end of 1936, the Treasury's gold stock amounted to \$11,258,000,000. All other reserve and circulating moneys embody a credit element in the sense that their face value is greater than the stuff of which they are made. The \$33,000,000,000 of circulating money (deposits and currency) at the beginning of 1937 was backed by gold and silver reserves held by the Treasury with a market value of about \$11,800,000,000.

The various forms of money, however, differ in the degree to which they embody credit. Circulating deposits represent the greatest use of credit. Indeed, under the basic reserve requirements, \$1 of gold may support about \$28 of commercial bank deposits. In contrast, the gold dollar cannot legally serve as reserve for more than \$2.50 of Federal Reserve notes.

V. THE BANKING SYSTEM

From the foregoing description of monetary arrangements, it is evident that the banks constitute the principal monetary agencies. The Federal Reserve banks supply the greatest part of hand-to-hand currency in the form of Federal Reserve notes. The same is true of central banks in other countries. All paper currency in France, for example, is issued by the Bank of France; and all paper currency in England is issued by the Bank of England. In addition, the Reserve banks supply important monetary service in holding commercial bank reserves, and in receiving, counting, storing, and supplying currency of all kinds.

¹ Estimated on the basis that adjusted demand deposits of member banks plus United States deposits represent about 80 per cent of total circulating deposits in the United States.

But the commercial banks, in providing all circulating deposits, are even more significant as monetary agencies, at least, if we may judge quantitatively. In addition to creating demand deposits, they keep record on their books of between \$2,000,000,000 and \$3,000,000,000 of transfers by check every day, and handle the clearing and collection of this vast amount. Moreover, they provide the public with hand-to-hand currency in whatever denominations are desired.

The fact should also be emphasized that the Federal Reserve Act conveys large discretionary powers over monetary policy upon the Board of Governors of the Federal Reserve System. The board maintains headquarters in Washington, D. C., and consists of seven members appointed by the President.

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CHAPTER III

THE VALUE OF MONEY: MEANING AND MEASUREMENT

With everyone now so keenly aware of the hardships and maladjustments of the great depression, there is small need to emphasize the practical significance of the value of money. In the period 1930–1933 wholesale prices fell 40 per cent, farm prices dropped 60 per cent, while at the same time many rigid prices, such as railroad and utility rates, did not decline at all. Although the initial price declines reflected deeper causes, it was not long before declining prices themselves assumed a causal role. One wave of liquidation unleashed succeeding layers of distress selling. The consequences were the deepening and prolongation of the depression marked by heavy unemployment, curtailment or stoppage of production, widespread default of obligations and business failures, paralysis of business enterprise, huge Government deficits, and finally the complete breakdown of our banking and monetary system.

Moreover, the numerous monetary steps taken by the administration since 1933 have been designed chiefly to raise prices toward their previous levels as a means of spurring business recovery and easing the burden of debt. Monetary measures of this nature were the Inflation Act of 1933, the Gold Reserve Act of 1934, devaluation of the dollar and the creation of the gold stabilization fund, purchase of securities by the Federal Reserve banks, and the Silver Purchase Act of 1934. Similarly, all foreign countries have been forced to alter their monetary laws in consequence of the sharp rise in the value of money.

I. MEANING OF THE VALUE OF MONEY

By value of money is meant simply its power to command goods and services in exchange, *i e.*, its purchasing power in the market place. Upon reflection this turns out to be a series of exchange ratios between a unit of money, on the one hand, and units of all economic goods, on the other. That is, \$1 buys 1

bushel of wheat, or 20 pounds of sugar, or 8 pounds of cotton, and so on. However, economic values are not usually expressed in this manner, but rather as dollar-and-cent prices of conventional commodity units. Thus a financial paper shows the price of crude oil to be \$1.04 per barrel, of corn to be \$1.20 per bushel, of steel billets to be \$32 per ton, etc. From this it becomes obvious that the value of money is the reciprocal of prices. If the price of oil rises to \$2.08 per barrel, the value of money in this particular case is halved; in other words, \$1 now buys $100\frac{1}{208}$ barrel whereas it previously bought $100\frac{1}{104}$ barrel. Similarly, if prices on the average rise to twice their previous level, one may say with equal propriety that the value of money is halved.

1. THE PRICE SYSTEM

Although the terms "value of money" and "general price level" are useful concepts, the fact should be stressed that they verge upon being mere mathematical abstractions. The whole price system can scarcely be compressed into one summary figure without departing dangerously far from realities. It is composed of thousands of separate prices that logically fall into more or less homogeneous groups, each one of which possesses its own distinctive characteristics. One is scarcely more justified, for example, in computing one grand average of all prices than one would be in computing the average weight of animals in the zoo. Such a figure might conceivably be useful, but, for most purposes, it is better to leave the lion and the mouse in separate cages.

What are the various groups into which the price system may be logically divided? The most significant group of all is that of retail prices paid by the final consumer, for whom the whole economic order presumably exists. This large group in turn subdivides into a number of subclasses, such as food, clothing, fuel, furnishings, rent, etc. At the other extreme is the group of raw material prices—prices of natural products at farm, forest, and mine. Generally speaking, such prices include only a preliminary stage of processing. Then between the retailers and raw-material producers stand the wholesalers who quote prices of products at various stages of manufacture. These prices embody the costs of raw material and the expenses of production incurred up to a particular point of manufacture and distribution.

This raises the important distinction between selling prices and the prices of the cost factors that comprise such selling prices. At any stage of the whole productive process, the selling price of the product may be resolved into costs of the primary factors—land, labor, capital, and enterprise. Taxes likewise must be included, and the term “land” must be stretched to include depletion of natural wealth. Each of the primary cost factors in turn has its *price* in the form of rent, wages, interest, and profits. Thus, apart from taxes, the price of any article is made up of the sum of the values ($\text{price} \times \text{quantity}$) of these primary factors consumed. Arising from this basic fact is the prime necessity of maintaining a proper balance between costs and selling prices. For the profits of enterprise are positive or negative depending upon whether selling prices more than cover, or fail to cover, the other costs; and, in turn, the decisions of businessmen to hire labor and to produce depend upon the margin of expected profit.

There are also certain other groupings of prices that may be significant for particular purposes. One may desire to separate the prices of internationally traded goods from domestic goods that do not enter into foreign commerce. Or one may be interested in the course of prices at the farm as compared with prices of manufactured goods. Again, attention may be focused on railroad and other public service rates; on professional salaries; on the prices of durable consumers' goods, such as houses, or of producers' goods, such as tractors; or on the value of corporate wealth as reflected in the prices of stocks and bonds.

All of the foregoing price groups, it is true, are closely inter-related and tend to be welded into one integrated system. But this tendency by no means justifies the neglect of the separate groups. If, for instance, the quantity of money should be increased until its value were halved, all prices would be approximately doubled after the readjustments were entirely completed. The adjustment process, however, would take many years, and in the meantime relationships among the various price groups would be seriously disturbed. Under the initial stimulus, the sensitive raw-material group might treble in price while public-utility rates and wages remained at or near the old level. During the adjustment period, therefore, it would not be sufficient to rely upon one grand average of all prices. In order to visualize the

degree of price disequilibrium, one would have to observe the relative movements of individual prices and price groups.

Thus, while the price system tends toward an equilibrium, it is continuously disturbed by such events as wars, government interference, strikes, overproduction of some things and underproduction of others, new inventions, shifts of demand, floods, and droughts. Disequilibrium is the rule rather than the exception. For these reasons little can be learned about the value of money from a single average of all prices. The whole price structure in its logical divisions and relationships should be studied over a period of time. The value of money should be considered *in detail* rather than simply *in general*.

II. MEASUREMENT OF THE VALUE OF MONEY

From the foregoing discussion it is clear that the only practicable method of measuring the value of money is by the observation of money prices and their changes over a period of time, *i.e.*, reciprocally or indirectly rather than directly. Index numbers of prices are employed for this purpose.

1. INDEX NUMBERS OF PRICES

a. Nature and Methods of Construction

A price index number is a figure that records the *average* change of a group of individual prices. The average price of the group in a base year or period is ordinarily represented by 100, and subsequent changes are expressed as percentages of the base-period price. This is illustrated in Table 3 which shows

TABLE 3—SIMPLE ARITHMETIC AVERAGE INDEX NUMBER

Commodity	Base price in 1936	Index number for 1936, per cent	Price in 1940	Index number for 1940 $\left(\frac{1940 \text{ prices}}{1936 \text{ prices}}\right)$, per cent
Crude oil . .	\$ 1 04 per bbl.	100	\$ 2 08	200
Corn .	1 20 per bu	100	0 60	50
Steel billets	32.00 per ton	100	44 00	137.5
		3|300 100		3|387.5 129.2

the assumed changes in the prices of crude oil, corn, and steel billets in 1940 as compared with the base year, 1936. While the price of corn is halved, the increase in prices of the other two commodities lifts the *average* change to 129.2. The method used is the simple arithmetic average of relatives. Another way to compute the index number would be to express the sum of the three prices in 1940, \$46.68, as a percentage of the sum in the base year, \$34.24. By this method, the so-called "unweighted ratio of aggregates," the index for 1940 would be 136. The different result is accounted for mainly by the fact that the second method gives dominant importance to steel billets, whereas the first gives each commodity the same rating.¹

The example is greatly oversimplified in order to illustrate the two basic methods, stripped of complications, by which the leading price indexes are constructed. In the planning of an actual index, many difficult problems arise which we may only enumerate. The first step is a careful definition of purpose. Upon this rests many of the succeeding decisions. Next comes the selection of prices to be included. Obviously, only a sample can be used, and above all this sample should truly represent the field from which it is drawn. Then one is faced with the problem of assigning relative importances to the various prices. It would be necessary, for instance, to weight meat far more heavily than nutmegs. Fourth, comes the choice of a base period. And last, determination of the mathematical method of construction. Each problem presents its own peculiar complications and difficulties.²

b. Leading Price Indexes

General Price Level. A number of very useful price indexes are published in the United States. There is only one, however, that purports to be an average of the whole price system, *viz.*, the *Index of the General Price Level* of the Federal Reserve Bank

¹ Apart from the upward bias of the arithmetic mean when applied to relatives.

² See F. E. Croxton and D. J. Cowden, *Practical Business Statistics* (New York, Prentice-Hall, Inc., 1934), Ch. XVII, for a more detailed discussion of the construction of index numbers. A still more complete treatment is found in Irving Fisher, *The Making of Index Numbers* (Boston, Houghton Mifflin Company, 1927), 538 pp.

of New York. This index is based upon the following elements of the price structure, weighted as shown in the column at the right:

Price Elements	Weights
Industrial wholesale prices	10
Farm prices at farm	10
Retail food prices	10
Rents	5
Clothing, fuel, furnishings, etc., at retail	10
Transportation rates	5
Realty values—urban and farm	10
Securities—bonds and stocks	10
Equipment and machinery	10
Hardware prices.	3
Automobile prices.	2
Wages	15
	<hr/>
	100

The base period of the index is 1913 for which year the index is made to equal 100. It is published monthly in the official bulletin of the Federal Reserve Bank of New York and is available on a monthly basis since 1860. It is unquestionably the best available measure of the average value of money. The entire index is shown in Chart 1.¹

Wholesale Prices. By far the most widely used and comprehensive index of wholesale commodity prices is that of the United States Bureau of Labor Statistics. It is now based upon 784 separate price series and is published weekly and monthly with 1926 = 100. The weights employed are the average quantities of the included commodities marketed in recent years. An especially useful feature of this index is the detail in which it is made available. One grouping is based upon origin: (1) farm products, (2) nonagricultural commodities, and (3) all commodities other than farm products and foods. Another grouping relates to the stage of manufacture: (1) raw materials, (2) semi-manufactured products, and (3) finished products. Still another more detailed classification by nature of product is published with 10 main groups and 46 subgroups. This enables one who is

¹ For a detailed description of this index see Carl Snyder, *The Measure of the General Price Level, The Review of Economic Statistics*, February, 1928, pp. 40-52.

CHART 1.—INDEX OF THE GENERAL PRICE LEVEL, 1860-1936
(1913 = 100)

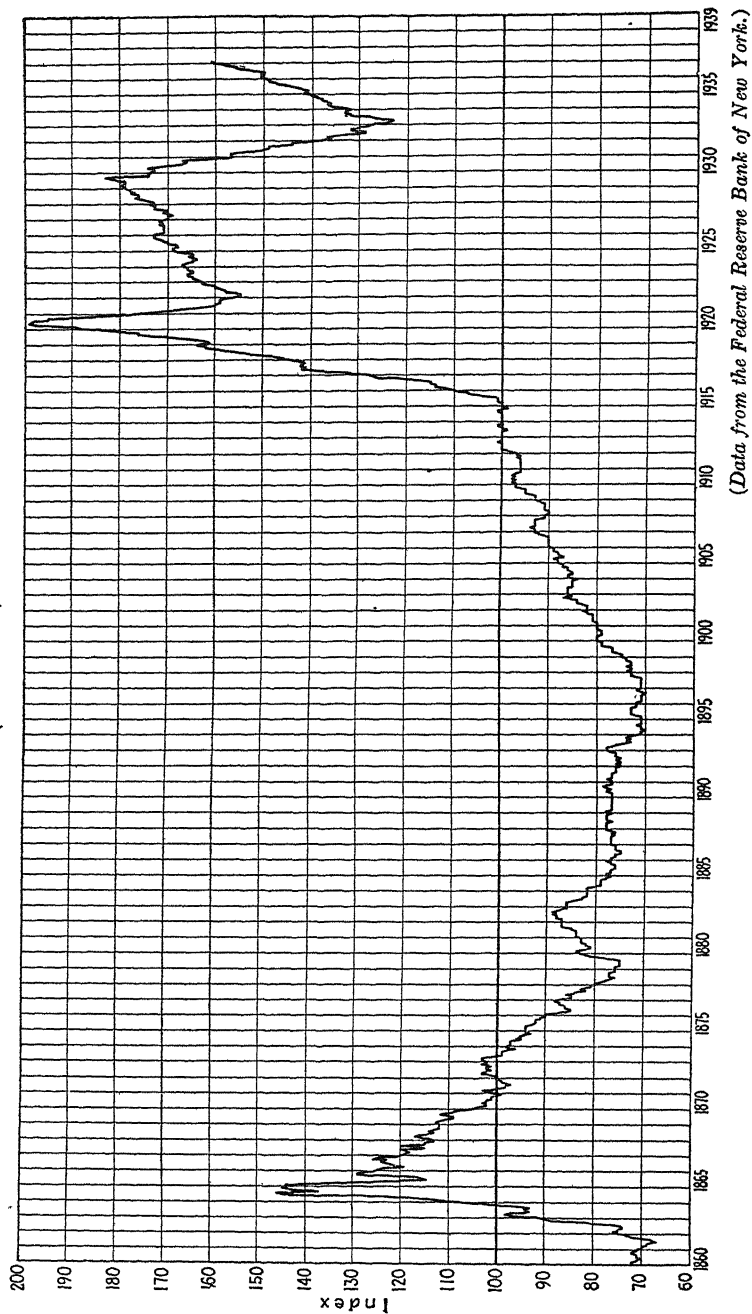
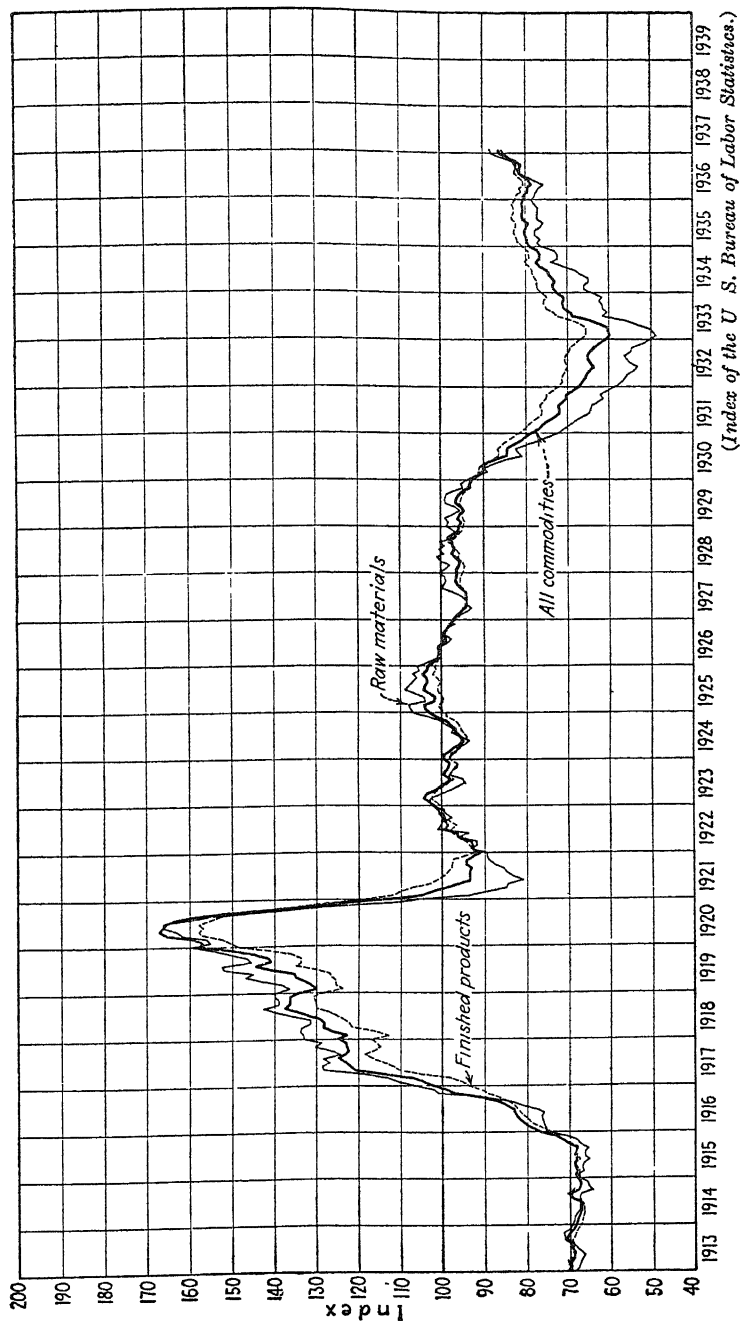


CHART 2.—WHOLESALE COMMODITY PRICES, 1913-1936
(1926 = 100)



interested in the course of prices in a particular industry or group to select a representative index.

Although the index of the Bureau does not go back beyond 1890, Professors Warren and Pearson of Cornell University have prepared a comparable index which covers the period since 1720.¹ Chart 2 shows the index and two of its main subdivisions for the period, 1913-1936.² One should observe not only the movements of the general index, but also the fact that raw material prices swing more widely and are more sensitive than the prices of finished goods. This is largely accounted for by the facts that: (1) both the conditions of demand and supply of raw materials are relatively inelastic; (2) raw materials are traded upon organized commodity exchanges; and (3) finished goods prices in large part embody rigid costs, such as interest, rent, wages, transportation, and depreciation.

Several other well-known wholesale-price indexes are also currently published. Among these should be mentioned Professor Irving Fisher's Price Index, the Annalist Index of Wholesale Commodity Prices, and Dun's Index of Wholesale Commodity Prices.

Retail Prices. In the field of retail prices the most useful index is that of the National Industrial Conference Board. It is available by months since 1914 in the five subdivisions: food (33 per cent), fuel and light (5 per cent), clothing (12 per cent), housing (20 per cent), and sundries (30 per cent). The foregoing percentages indicate the weights assigned to each component. They are based upon the budget of a typical wage-earner's family. The base year is 1923. Chart 3 shows this index and its subdivisions since 1914.

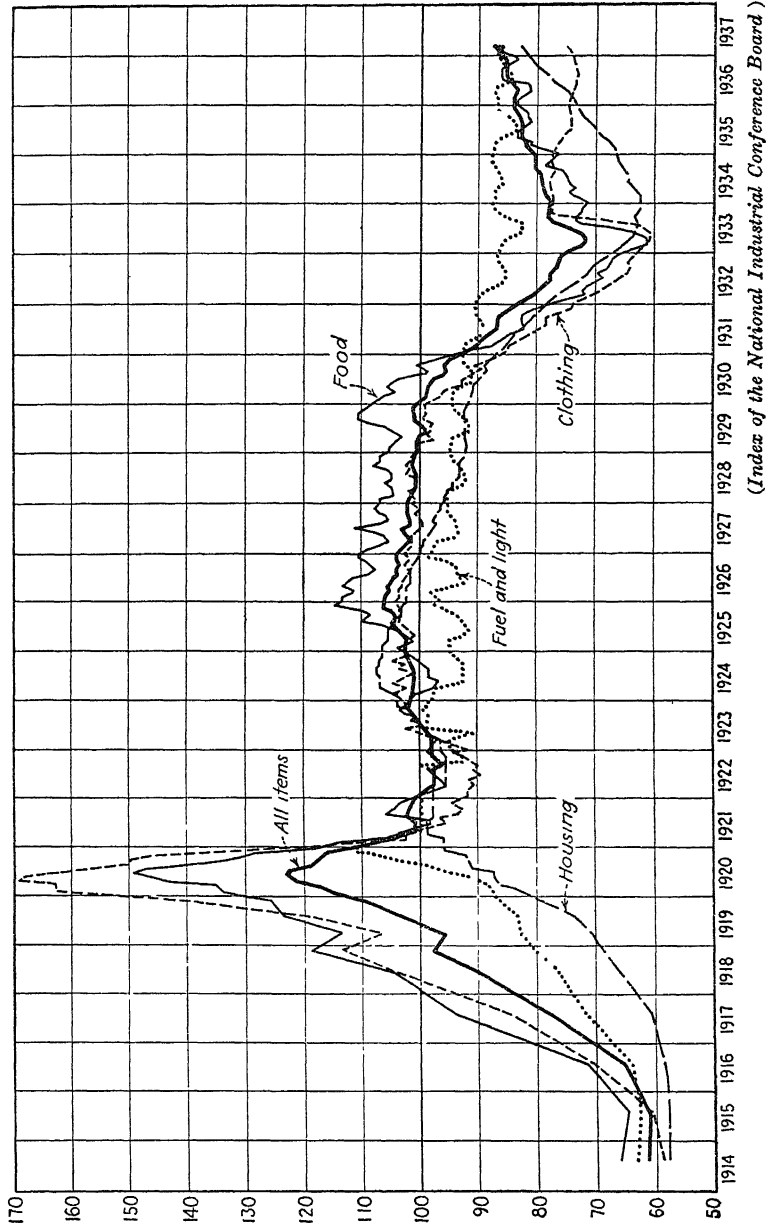
The United States Bureau of Labor Statistics also publishes two retail-price indexes in the *Monthly Labor Review*: a quarterly Index of Cost of Living and a biweekly Retail Food Price Index.

Several authorities in the field of money, including Mr. J. M. Keynes, prefer to think of the value of money in terms of retail prices. Much, indeed, may be said for this point of view. The welfare of the final consumer stands as the only ultimate objec-

¹ Published in the Standard Statistics Company *Base Book* and subsequent reports.

² See *Bulletins* 493 and 572 of the U. S. Bureau of Labor Statistics for a full description of this index.

CHART 3.—INDEX OF COST OF LIVING, 1914-1936
(1923 = 100)



tive of the economic system. This welfare in turn principally depends upon the relation between the money incomes of consumers and the prices at retail of consumption goods and services. There seems to be good reason, therefore, to regard retail prices as basic in a deeper sense than other elements of the price system.

But despite all of this, one is not at all justified in neglecting the various other values of money reflected in the price structure. The streams of consumer money income find their sources in production, which proceeds smoothly when the price system is in balance. But when price disparities develop, production is curtailed, and consumer income suffers or is cut off by unemployment.

2. CONCLUSION

For very general purposes, it may be useful to think of the value of money as the reciprocal of an index of all prices, such as that of the Federal Reserve Bank of New York. But such an index averages out the numerous logical subdivisions of the price system and, therefore, comes close to being a mere mathematical abstraction. The realities of the price structure are bound up in its detail; *i.e.*, in the movements and relationships of significant individual prices and price groups as shown by index numbers. Price studies that delve below the surface must necessarily be concerned with such matters.

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CHAPTER IV

THE VALUE OF MONEY: EFFECTS OF PRICE CHANGES

Material changes in the value of money seriously limit the extent to which two basic economic objectives can be realized. That is, the disturbances to business that spring from such changes prevent either full production or stable production. There is nothing sacred about a particular price level, except that its existence for a considerable period makes it the basis of a multitude of money contracts and other economic relationships. As soon as this happens, there arises a real public interest in preventing any marked departure from that level. For such a change necessarily involves a violation in greater or lesser degree of existing contracts and arrangements. Revisions and readjustments to a new level require a decade or more, and in the meantime the economic system is thrown seriously out of balance.

Studies of periods of marked price changes enable us to trace the typical effects on various classes of the community, and on the whole economy. It is with these concrete effects that the present chapter is concerned.

I. THE INEQUALITY OF PRICE CHANGES

Assume that in the United States all prices including commodity prices, wages, and rent stood at 100 in 1890. Assume also that because of some cataclysm of nature all prices advanced in 1891 to 200. In other words, that wages doubled, rents advanced in the same proportion, and that commodities, both individually and generally, increased in price at the same rate. Moreover, let us assume that retail prices went up just as rapidly and to the same extent as wholesale prices. Would there under such conditions be any real disturbance? A glance at the assumptions leads one to say that with the exception of the fixed income classes there would have been no suffering because all prices went up at the same rate. If John Smith got \$3 a day for

his labor in 1890 and his cost of living was x , he received \$6 a day for his labor in 1891 but with his cost of living at $2x$. He enjoyed the same quantity of goods as before. He was no worse off and no better off. Thus, the gravest consequences of price changes arise from disequilibrium in the price structure.

At this point it is desirable to consider the effects of changes in the value of money upon those who receive wages, interest, and profits. The effect of price changes upon those receiving rent, if the rent is based upon a long-time contract, is practically the same as upon those receiving interest. Hence, what is said about the latter group also applies to those receiving long-term rents.

II. EFFECTS ON WAGES

Wages are the price paid for labor. They are, therefore, part and parcel of the whole price system. Consequently, any general price disturbance is bound to influence the price paid for labor. But, as we have noted earlier, prices move with unequal rapidity. Wholesale prices, largely because of the better organization of the wholesale markets, advance first and generally more rapidly than any other prices. The price paid for labor does not advance so rapidly as wholesale prices, because the labor market is imperfectly organized. As a matter of fact, there are hundreds of labor markets in the United States, though the individual markets are rather loosely joined to each other. That laborers may move from one market to another means that the separate divisions of the market are interconnected.

The great majority of people in the United States and in the world receive their income in the form of wages. In 1929 employees received wages and salaries of \$53,350,000,000 in the United States, and in 1934 they received \$34,600,000,000. In both years this represented about 67 per cent of the entire national income.¹ The number of wage earners and salaried workers in 1930 is reliably estimated at 38,000,000.² Thus the effect of price changes upon wages is a matter of great practical significance.

¹ H. G. Moulton, *Income and Economic Progress* (Washington, Brookings Institution, 1935), p. 179.

² *Ibid.*, p. 79.

1. MEANING OF "HIGH WAGES"

The phrase "high wages" may be used in one of three meanings. First, it may indicate that wages are high relative to those of another year. Thus railway wages per hour stood at 100 for 1915 but in 1920 were at 220. It is proper, therefore, to say that railway wages were high in 1920. A second meaning of the phrase is the buying power of high wages. This is really a function of two variables: first, the money wages; and, second, the cost of living. That is, money wages may be high relative to those of a certain year, while at the same time the cost of living may be low relative to the same year. In such cases, money wages give the laborer a larger real income and permit a higher standard of life. Finally, the term "high wages" may mean that a larger percentage of the national income goes to labor and a smaller percentage goes to the landlord, capitalist, and business enterpriser. Thus, the percentage of the national income measured in terms of dollars which went to wages and salaries increased from 65 to 67.2 between 1922 and 1934.¹

Wholesale prices advance more rapidly than wages. This does not mean, however, that laborers are better off or worse off during a period of rising prices. Their well-being turns upon the relation between their money wages and the cost of living. The cost of living is measured in retail prices, not wholesale prices; and these retail prices advance less rapidly than wholesale prices. Hence it is unfair to compare wages with wholesale prices. Rather, the comparison should be between wages and the cost of living.

2. THE MOVEMENT OF REAL WAGES IN THE UNITED STATES

A most illuminating study in the field of money wages, cost of living, and real wages has been made by Professor Douglas.² His study covers the years from 1890 to 1924; it includes wages paid laborers in manufacturing and transportation industries, clerical and low-salaried workers in these two fields, ministers,

¹ *Ibid.*, p. 179.

² Paul H. Douglas, *The Movement of Real Wages and Its Economic Significance*, *American Economic Review*, Vol. 16, No. 1, *Supplement*, pp. 17-53.

teachers, and Government and postal employees—a total of more than 3,000,000 persons. The course of relative annual earnings, cost of living, and relative annual real earnings from 1914 to 1924 is shown in Table 4. Annual earnings in money reached the peak in 1920, when the index number stood at 218; cost of living was the highest in the same year, when the index number was 205; and annual real earnings were highest in 1924, when the index number was 122. In concrete terms, real wages were almost 25 per cent higher in 1924 than they were in 1914. It is interesting to note, also, that the cost of living was always lower than annual earnings and that real earnings were highest in the year when annual earnings were 13 points below the peak. This study would seem to indicate that laborers were in a substantially better economic position in 1924 than in 1914.

TABLE 4.—RELATIVE ANNUAL EARNINGS, COST OF LIVING, AND RELATIVE REAL EARNINGS, 1914–1924

Year	Relative annual earnings	Cost of living	Relative annual real earnings
1914	100	100	100
1915	100	98	102
1916	111	107	104
1917	127	129	99
1918	163	157	103
1919	186	179	104
1920	218	205	106
1921	198	176	113
1922	194	166	117
1923	204	169	121
1924	205	169	122

SOURCE: *American Economic Review*, Vol 16, No 1, Supplement, pp 50, 52, 53.

The professional classes and other salaried people find that their remuneration does not advance so rapidly as wholesale prices and is generally behind retail prices. Surveys made during periods of rising prices show that the above statement applies to college teachers. Massachusetts statistics for the period 1913–1919, using 1913 as a base, show that the average weekly industrial wage of employees in the nine principal industries of the state increased from 100 in 1913 to about 220 by the end of 1919, while the cost of living advanced from 100 to approxi-

mately 190 and the average professional income from 100 to 124 for the same period.¹ In other words, if we generalize from the Massachusetts figures, professional incomes lagged not only behind weekly wages but far behind the cost of living.

When prices decline sharply, all groups in the community, including labor, suffer as a consequence of the accompanying deep depression of business. This is shown emphatically by the following comparisons of changes in basic factors between 1929 and the low point of the depression:

Factors	1929	March, 1933
Wholesale commodity prices: (B.L.S., 1926 = 100)	95 3	60 2
Cost of living: (N.I.C.B., 1923 = 100)	100 0	71 8
Factory employment: (B.L.S., 1923-25 = 100).	104 8	58 8
Durable industries	103 7	43 9
Nondurable industries	106 1	74 7
Factory pay rolls: (B.L.S., 1923-25 = 100)	109 1	37 1
Durable industries	108 8	25 3
Nondurable industries	109 6	52 1
Industrial production: (F.R.B., 1923-25 = 100)	119 0	59 0

SOURCE Standard Statistics Company Base Book

It is true that the wage earner or salaried person who has a full-time job actually gains because his wages are cut less than the fall of the cost of living. In fact, labor as a group usually benefits in the early stage of depression, before unemployment offsets the higher real wages of employed workers. But if price declines are large, the loss of jobs soon creates untold hardship. Labor thus loses far more, as the foregoing figures indicate, from the drop in pay rolls and from unemployment than it gains from declining living costs. Attention is particularly called to the fate of workers in the hard-hit durable-goods industries where employment fell 58 per cent and pay rolls dropped 77 per cent.

¹ *Report of the Massachusetts Commission on the Necessaries of Life*, 1920, p. 39.

These conclusions are further supported by estimates of the distribution of the national income. Between 1929 and 1933 wages and salaries paid to employees in the United States declined from \$53,350,000,000 to \$30,410,000,000. Moreover, the share of total national income paid to labor fell from 67 per cent in 1929 to 65.7 per cent in 1930, to 65.2 per cent in 1931, and to 64.5 per cent in 1932.¹

III. EFFECTS ON PROFITS

The term "profits" as used in economics refers to the remuneration received for assuming and continuing the responsibilities of production and distribution of goods. These responsibilities resolve themselves largely into the assumption of risks which are inherent in our pecuniary organization. Deciding when to initiate a business, what products to manufacture, the danger of the removal of a tariff, the possibility of a war, and the like, are some of the risks involved in modern business.

We must distinguish also between gross profits and net profits. Gross profits refer to the total income received from a business enterprise. This is really a composite of rent, wages, interest, and profits. For example, the country storekeeper who owns the land and building, works in the store himself, and makes the decisions receives a certain income each year. Only part of that income can truly be called profit, for he must allocate to himself certain wages for his labor, rent on the land, and interest on his investment. The remainder, after deducting depreciation, taxes, and certain other items, is net profits.

1. PROFITS DURING RISING PRICES

Profits are greater during a period of rising prices. The reason is that businessmen find their selling prices increasing more rapidly than their costs. In other words, the margin between their costs and their sales prices becomes larger because their costs do not rise so rapidly as the prices of the commodities they sell. Wages advance during such a period but not so rapidly as wholesale prices; interest on long-time funds remains fixed; interest on short-time loans increases but not so rapidly as the wholesale prices; and rent may be, frequently is, paid in accord-

¹ H. G. Moulton, *Income and Economic Progress* (Washington, *Brookings Institution*, 1935), p. 179.

ance with a contract made some years ago. During such a period, then, businessmen make large profits.

For example, the great increase in profits during the high-price period of the World War is shown in Corporate Earnings and Government Revenues,¹ which gives an unusual amount of information concerning the profits of about 31,000 corporations in 1916 and 1917. These corporations had invested capital amounting to about \$22,000,000,000; their net income in 1917 was \$4,800,000,000, or an average of 21.7 per cent on their invested capital.² The mining and manufacturing and mercantile enterprises showed the greatest rate of profit, while the railroads and public-utility corporations had the lowest rate of profit.

a. Peculiar Position of Public Utilities

This raises the question of why utilities along with business in general did not enjoy larger profits during rising prices. The explanation lies in the peculiar features of their cost-price ratio. The prices which these corporations charged for their services were regulated by administrative decree, while the prices that they were obliged to pay for labor, coal, and steel were for the most part settled in the open market. Such corporations were compelled to pay more for their labor, coal, and steel, while at the same time they were prohibited by law from raising their rates. Such increases in rates as they were allowed to charge frequently came late—too late in some cases to prevent receiver-ships. The inability of public utilities and railroads to make profits equivalent to those of other enterprises was due to a condition exactly the reverse of that in other businesses. In the case of the latter costs increased less rapidly than prices while in the public-utility field costs advanced much more rapidly than prices.

This distinction between profits made in different classes of industries is one of great theoretic and practical importance. Profits are the stimuli which attract capital into business enterprises; and under normal competitive conditions we may expect that different industries will get substantially the correct amounts

¹ *Senate Document 259*, 65th Congress, 2d Session.

² David Friday, *Profits, Wages, and Prices* (New York, Harcourt, Brace & Company, 1920), p. 35. This book contains a great deal of statistical information regarding profits.

of capital. The whole system of government regulation and control is based upon the attempt to secure in industries essentially monopolistic in their character the same results as are secured by competition where the working of competition protects the public. The failure to allow railroads and public-utility enterprises to advance their rates to meet changing conditions shows how difficult it is to secure by administrative regulation what is accomplished by competition.

In the opposite situation of declining prices, rate-making authorities likewise show great inertia. For example, railroad rates were increased by surcharges during the recent depression despite a 30 to 60 per cent drop in other prices. Likewise, other utility rates rose during 1930 and 1931, and lagged tardily behind general prices in the downward revisions that were forced by the Roosevelt Administration. The situation of the utilities during sharp price declines is quite similar to that of labor. They benefit in the early stage of depression because their costs fall more than their rates, but it is not long until the volume of service is so greatly curtailed that net income suffers.

2. PROFITS DURING DECLINING PRICES

If business profits increase sharply during periods of rising prices, they shrink as rapidly when prices fall. This follows from the fact that costs of production cannot quickly be adjusted downward. Rents and interest are in large part fixed by long-term contracts, and salaries and wages and certain other current expenses do not readily yield to adjustment. The business enterpriser, being a residual claimant, therefore soon finds himself operating at a loss rather than a profit. For example, the net income of all manufacturing concerns in the United States dropped from \$3,862,000,000 in 1929 to a deficit of \$1,906,000,000 in 1932.¹

Another illustration of the effect of declining prices may be drawn from the plight of the farmer during the depression. Between 1929 and 1933, the prices of farm products dropped 61 per cent; grains dropped 66 per cent. During the same period, finished-goods prices fell 30 per cent, and the cost of living declined

¹ *Reports of the United States Treasury* See *The National City Bank Letter*, March, 1936, p. 38.

28 per cent.¹ These represent what the farmer had to buy. The result was that farm losses were so heavy that farmers were unable to meet interest or principal payments on their mortgages, or to pay taxes. Indeed they were scarcely able to buy any of the manufactured articles to which they were accustomed. Default of obligations led in turn to widespread foreclosures, forced sale of property, and bank failures. Riots occurred and were so generally threatened that relief on a large scale by the Federal Government became necessary. By various devices a greater share of the national income was given to the farmer, and at the same time some relief from financial obligations was provided. The most important phase of the emergency farm program was the effort of the AAA to restore the balance between farm and nonfarm prices.

IV. FIXED-INCOME GROUPS

1. EFFECTS ON INTEREST

This discussion of the effects of changes in the value of money is based upon interest as a source of income. It is not concerned with the relationships between the price level and interest rates.

Those individuals whose entire income is received from interest payments suffer greatly during a period of rising prices. Their income is in money units; this money must be transformed into goods and rights and services by buying these things in the market. The quantity which can be bought fluctuates with the price level. A high price level cuts down their consumption while a low price level increases their consumption.

Let us assume the case of an individual who invested \$50,000 in high-grade first-mortgage railroad bonds in 1900 at a price to yield him 4 per cent. His money income was \$2,000 a year, a sum sufficient to enable him to live comfortably at that time. Since then the cost of living has advanced. He still receives his \$2,000 a year. But he finds that his income will not buy so much as formerly. In 1920, for example, it would have bought less than one-half as much. He must reduce his standard of living or sell some of his bonds. If he sells his bonds, he finds that the

¹ Calculations based upon the Wholesale Commodity Price Index of the Bureau of Labor Statistics, and the Cost of Living Index of the National Industrial Conference Board.

price has dropped so that he must sustain a loss in his principal. Such a person suffers greatly during a period of rising prices.

The class typified by this case is larger than many people believe. Often individuals have their principal controlled or managed by a trust company. In the absence of specific provisions in the trust instrument, the trust company is in most states obliged to invest the funds of the estate in high-grade bonds. The income from such trust funds is fixed in dollars, but the purchasing power of these dollars fluctuates greatly. The same is true of time and savings deposits in banks.

Numerous charitable, religious, and educational institutions face the same difficulty. The investments of many of the American colleges and universities, for example, are mostly in bonds, because bonds are, in general, safer investments than stocks.

How does the long-term creditor fare during declining prices? The answer to this question depends upon the rate at which the decline takes place. If it is a gradual down trend that does not create serious maladjustments, the creditor enjoys the increased purchasing power of both income and principal. In the early stage of a cyclical price decline, also, he benefits for the same reason. But if the cyclical decline is sharp and prolonged, interest receivers as a class suffer along with other groups. For example, the income received by investors dropped from \$12,164,000,000 in 1929 to \$7,242,000,000 in 1933, or by 40.5 per cent,¹ as compared with a fall of about 25 per cent in the cost of living. Nor does this include the losses sustained from defaulted obligations.

2. OTHER FIXED-INCOME RECEIVERS

Closely related to the interest-receiving creditor class are certain others whose incomes are fixed in money terms. When a substantial rise in prices occurs they are likewise obliged to reduce their standard of living. This class includes a growing number of people dependent upon pensions—soldiers and sailors, workers pensioned by their employers, teachers, ministers, Federal, state, and municipal employees, and the aged in several states. This group is being vastly enlarged by the Federal program of social security. The millions of people who are beneficiaries of life

¹ Moulton, *loc. cit.*

insurance also belong to this class. The amount of such insurance is in the vicinity of \$100,000,000,000. Still others who belong are the lessees of property or property rights, owners of annuities, and those whose wages or salaries are almost finally fixed by law or custom.

V. EFFECTS ON DEBTORS

It may also be well to mention the influence of rising prices upon debtors. Debtors as a class have invariably been anxious from time immemorial to secure high prices. It has been said that one of the groups which Cataline attracted to his following was the debtor class who thought he would debase the currency and thereby bring about a regime of high prices. The greenback movement following the Civil War, and the Populist movement of a few years later secured their following in part from the debtor classes in the agricultural sections of the United States. The antipathy to the banking and financial centers of the United States which still exists is likewise based in part upon the attitude of the debtors.

This raises the question of why debtors are so anxious to have rising prices. The reason is that they can pay their debts with smaller amounts of the goods they produce or of the labor they sell. If John Doe, who is a farmer living in Nebraska, has given the bank a mortgage on his farm as security for a loan of \$3,000 and the mortgage matures at a time when wheat is selling for \$1 a bushel, he must sell 3,000 bushels of wheat to pay that mortgage. If, however, prices advance rapidly so that wheat is selling for \$2 a bushel at the time the mortgage falls due, he needs to sell only 1,500 bushels of wheat to pay the mortgage. Mortgage or debt contracts are in terms of money. Debtors secure money to pay these debts by selling either the commodities they raise or their labor. Under such conditions as the above, the debtor pays his mortgage in 50-cent dollars. Hence, debtors as a class have frequently favored some form of monetary inflation. It is to their pecuniary interest to do so.

1. PECULIAR POSITION OF FINANCIAL CORPORATIONS

It must not be inferred from the preceding paragraph, however, that all debtors gain during a period of rising prices. Many debtors are influenced very little by a rising price level. The

savings banks, the commercial banks, the insurance companies, and other corporations of a similar sort are not greatly affected by moderate inflation. The savings banks and insurance companies may find that the purchasing power of the dollar has declined greatly, but they are only incidentally concerned since both their assets and liabilities are in dollar terms. Of course, their interests are at stake insofar as changing prices affect their expenses, income, and the value of their assets. The real suffering in such cases is borne by those who hold the fixed money claims upon these corporations.

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CHAPTER V

MONETARY STANDARDS

No generation since the beginning of the nineteenth century has escaped sharp controversy over the question of the monetary standard. In fact, the issue has been a fundamental one arising from time to time since the first emergence of markets and a price system. And now, as we enter 1937, the nations of the world again find themselves groping for a monetary standard that promises to serve best their economic and national interests.

This naturally leads us to the question: What are the criteria of a good monetary standard? The basis for an answer lies, of course, in our final economic objectives. In terms of these, we may start with the following proposition: a good standard is one that produces a price structure which promotes full production, stable employment, and an equitable distribution of the national income. But this leaves us tossing rather hopelessly on theoretical waters—from which unfortunately it is difficult to emerge very far in the present state of our knowledge of monetary matters. We may be a little more specific by saying that the standard should promote relatively stable prices and foreign exchange rates, that it should be susceptible to international adoption, and that it should command a large degree of public confidence. Beyond this, however, it is difficult to go with certainty. This obviously leaves, therefore, a wide field for difference of opinion as to what standard in practice best meets the requirements of the particular time and place. Many believe in the gold standard, others in bimetallism, and still others in some variety of commodity or managed paper standard.

I. MONOMETALLISM: THE GOLD STANDARD

Although the precious metals were used as money many centuries B.C., the gold standard as such has had legal recognition only since its adoption by England in 1816. For the preceding century, however, England had been effectively on a gold basis

because silver, being undervalued, was scarcely coined at all. In the United States the legal basis for gold dates back only to 1879, when specie payments were resumed after the greenback period. But the effective gold basis began in 1834, when the gold-silver ratio at the mint was changed so as to undervalue silver. Congress apparently intended to keep both gold and silver in circulation at that time but failed to estimate accurately the market ratio between them. The new German Empire adopted the gold standard in 1871; the Scandinavian countries in 1872; Holland in 1873; France, Italy, and Belgium about 1874; Russia and Austria in 1892; and Japan in 1897. Thus, as the world's history goes, the formal gold basis is distinctly a modern institution.

The gold standard has at least four varieties which may be distinguished: (1) the gold coin basis; (2) the gold bullion basis; (3) the gold-exchange basis; and (4) the managed basis.

1. THE GOLD COIN BASIS

a. Rules

In the prewar period the practice of coining gold was universal in gold-standard countries. Free and usually gratuitous coinage at a definite mint price was one of a set of fairly definite rules recognized throughout the gold area. A second rule was to permit the free melting of coins, *i.e.*, the ready conversion of gold from monetary to industrial uses. The first rule, it should be observed, prevented the value of coined dollars from rising above that of an equivalent amount of bullion; while the second one prevented the value of coined dollars from falling below that of an equivalent amount of bullion. A third rule insisted upon the necessity of unrestricted movements of gold among countries as a means of balancing international payments. This linked each monetary system to the world value of gold.

A fourth rule ordinarily observed was the recognition of coined gold as standard money, the highest form of circulating money. It was made a full legal tender while other forms of money were either not legal tender at all or were granted only partial legal-tender power. Another one called for interconvertibility of all forms of domestic currency and gold, so that all units of money would have the same purchasing power. Still another one recog-

nized the need for a minimum of government interference with international trade and capital movements in order that an economic distribution of the world's gold stock might be realized. And a final rule called for no more than temporary interference by a country with the effect of inflowing or outflowing gold upon its price system. Thus the prewar gold standard was a more or less automatic device tending to produce a closely integrated world system of prices, stable foreign exchange rates, and a high degree of economic internationalism.

b. Automatic Corrective Forces

According to the classical doctrine of David Ricardo and his followers, an international movement of gold would at once set in motion corrective influences that would check and finally stop the flow. As an example let us assume the loss of gold by England to other countries. This loss would deplete the reserves of English banks, and, therefore, sooner or later enforce higher short-term interest rates and the contraction of bank credit. This in turn would lead to lower prices in England. At the same time the exported gold would enter the bank reserves of other countries, and for opposite reasons would bring about credit expansion and higher prices. As a consequence of these developments, England would become a relatively better place in which to buy and a relatively poorer place in which to sell. In other words, the original cause of the gold outflow, the excess of imports over exports, would be removed.

As a matter of fact, under the conditions that obtained in the century before the World War, especially after about 1875, these automatic correctives operated with a surprising degree of effectiveness. But, after the war, the heritage of economic maladjustments, the rise of nationalism with an accompanying increase of government regulation of business, trade, and investment, and the more active role of central banks all combined to make the traditional gold standard unworkable. The automatic corrective forces were no longer free to work toward an international economic equilibrium.

2. THE GOLD BULLION BASIS

When the leading nations returned to gold during the postwar period, most of them adopted the gold bullion standard. That

is, gold was no longer coined, but was held by the central bank or treasury in the form of bars as a reserve against credit moneys in circulation. The central bank agreed to buy and sell gold at a fixed price in terms of domestic paper currency. The Gold Standard Act of 1925 in England, for example, required the Bank of England to sell gold bars on demand at £3 17s. 10½d. per ounce and to buy gold at £3 17s. 9d. per ounce. However, since the minimum size bar that was to be sold contained about 400 ounces, the gold withdrawals from the bank were actually restricted to export and industrial purposes. The general public could not get gold for their Bank of England notes in small amounts.

The point should be emphasized that, in essentials, the gold bullion standard is not different from the gold coin basis; one is as truly a gold standard as the other. The all-important requirement is a close coupling of the value of domestic currency to the world value of gold. This may be achieved without coining gold, and without redeeming small amounts of the local currency. It is enough that the central bank buy gold freely at a fixed price and sell it at the same price in amounts convenient for the bankers and bullion dealers.

3. THE GOLD-EXCHANGE STANDARD

a. Development

The theoretical advantages of this standard were first set forth by Ricardo when the bullion controversy was stirring Great Britain. A modified form of the gold-exchange standard was used for regulating foreign exchange between Edinburgh and London in the second half of the eighteenth century. Holland appears to have been the first country to adopt it when, in 1877, she managed to keep her silver and paper currency at a fixed gold parity by selling foreign exchange at a fixed rate in terms of silver or paper. Although this Dutch scheme was subject to various stresses, it worked well. Russia followed by the adoption of the gold-exchange standard in 1892, when the government agreed to sell exchange on Berlin at 2.20 marks per ruble and to buy at 2.18 marks per ruble. Austria-Hungary established a similar system during the same year. However, it remained for British India in 1893 to carry the scheme to a logical conclusion. Ten years later the Philippine Islands linked their peso to the dollar.

During the period of monetary reconstruction following the World War, a considerable extension of the gold-exchange standard occurred. Countries that adopted some form of it included Austria, Poland, Germany, Chile, Ecuador, Colombia, and Bolivia. But with the suspension of the gold standard in England and most other countries beginning in 1931, the gold-exchange basis was simultaneously overthrown, and drifting or managed paper standards took its place.

b. Essential Features

The first requisite for the gold-exchange standard is to set up either directly or indirectly a certain number of grains of gold as the ultimate monetary standard. In the case of the Philippine Islands, this is a theoretical lump of gold one-half the weight of our gold dollar; in the case of British India, it was a lump of gold weighing 7.53 grains. These ultimate monetary standards are generally set up indirectly, *i.e.*, by selling gold drafts on the gold reserve at so many units of the native currency for so many units of the currency of the country where the gold reserve is kept. Actual coins embodying these theoretical gold units are not struck by the mint.

Second, the local currency is anchored to the foreign money unit by various devices. In the case of British India the mint was closed to the free coinage of silver so as to maintain the gold parity of the silver coins in circulation. The principle applied in such cases is essentially the same as that applied to the coinage of subsidiary money. If the free and unlimited coinage of silver were continued, the result would be a depreciation in the gold value of the silver coin and an overthrow of the gold-exchange basis. It is necessary, therefore, to stop coining silver on private account.

Third, there is needed a gold fund in the financial capital of the mother country or of some country with which the gold-exchange-standard country has trade relations. This gold fund can be obtained by floating bonds and taking the proceeds in gold, or by a favorable trade balance.

Fourth, drafts must be sold on these gold reserves at a rate as low as it would cost to ship the gold. This rate, in other words, must be low enough to make importers come to the designated bank or treasury department and buy drafts on the gold reserve of

London, New York, or some other financial center. If it were cheaper to convert the native currency into gold and export it, then the gold reserve would be exhausted and the tie binding the silver currency to gold would be broken.

Furthermore, it is necessary that the native currency paid for these gold drafts be retired. It is a well-known principle of economics that when the exchanges reach the gold export point, the currency becomes redundant and gold tends to leave the country. Similarly, when the balance of trade is strongly favorable, the foreign exchange rate reaches the gold import point and gold tends to flow into a gold-standard country. In this way the currency is automatically either contracted or expanded. In the case of countries on the gold-exchange standard the currency is either contracted or expanded just as automatically by withdrawing from circulation the native currency paid for foreign drafts. All this is accomplished without the shipment of gold.

The conditions necessary for the gold-exchange standard are, therefore, first, a cessation of the free coinage of silver; second, the establishment of a gold reserve at home or abroad or both, with the sale of drafts on these gold reserves at a rate as low as the cost of exporting or importing the gold; and, finally, the retirement or expansion of the native currency when drafts are sold or cashed.

c. Advantages

The most important advantage of a gold-exchange standard is the stabilization of the price of gold-standard currencies in the smaller nations that would otherwise have to resort to a silver or paper standard. This, of course, assumes that the leading nations are on a gold basis. The wide and uncertain fluctuations of foreign exchange rates in silver and paper standard countries represents a serious obstacle to foreign trade.

A second advantage is the economy of such an arrangement. A small country may not be able to afford a sufficient gold stock to support a gold bullion standard. But it may enjoy practically all the advantages of gold by keeping instead a reserve of foreign exchange. Most of this can be invested in interest-bearing assets so that the cost of the system is held to a minimum. Thus, by this device the world's stock of monetary gold may be used with great economy. In other words, the gold-standard area

may be extended without increasing the demand for monetary gold.

Another possible advantage is the fact that, in addition to more stable exchanges, certain small countries may be less disturbed by price-level fluctuations. This does not necessarily follow since the record of the gold standard has been far from satisfactory in this respect. In any event, their price levels are by this means tied to world gold prices which are likely to show greater stability than silver prices. Whether gold prices would be more stable than a managed price level would depend upon the quality of the management.

d. Disadvantages

The main drawback of the gold-exchange basis is that it represents a refinement of the use of credit which at times seems unworkable in a world where great disturbances are unfortunately common. When the world is torn apart by a war or by a severe depression, losses may be suffered by both the financial centers that hold the reserves and the gold-exchange-standard countries themselves.

A part of the danger from war may be avoided by the selection of a friendly financial center for lodgment of reserve balances. For example, some of the South American countries link their currencies to the dollar and keep balances in New York City banks. But even then the economic disturbance from a war may lead to an embarrassing withdrawal of balances.

The best illustration of the hazards of such a standard during depressions is furnished by the world-wide monetary breakdown during the period 1931-1933. Over £400,000,000 of short-term balances were lodged in London in 1931, a large part of which represented gold-exchange reserves of other countries. It was the panicky withdrawal of these balances, once fears began to spread, that forced England to suspend the gold standard in September, 1931. At the same time, France and several other countries lost heavily from the depreciation of their remaining sterling balances.

The fact should also be emphasized that, even though a financial center holding these reserves is able to meet such a drain and thereby rebuild foreign confidence, the money market is necessarily seriously disturbed. Our loss of over \$700,000,000

of gold during September and October, 1931, is a case in point. The commercial banks had to fall back upon the Reserve banks for over \$1,000,000,000 of reserve credit. Money rates rose and the depression was fanned by enforced bank-credit liquidation.

It thus becomes clear that the practical application of the gold-exchange standard is subject to definite limitations under existing world conditions. These limits are largely set by the inability of mankind to settle disputes without resort to war or to prevent the recurrence of business depressions. Until real progress can be made along these basic lines, international cooperation in every field, including credit refinements, is figuratively bound and handcuffed. Despite all this, however, there remains a definite field of usefulness for the gold-exchange standard. Its success is most likely when the smaller country is a political and economic satellite of the gold-standard country where the final reserve is maintained.

4. THE MANAGED GOLD STANDARD

The gold basis adopted after the World War may well be designated a "managed gold standard" of the gold-bullion and gold-exchange variety. There existed during this period a far greater degree of international central-bank cooperation than in any previous era. Large loans were arranged on occasion, and agreements were reached relating to discount rate policy and open market operations. To a large extent this vigorous and active new role of central bankers determined the direction of gold flows, and also offset the operation of the automatic correctives making for international equilibrium. That is, the gold-losing country often tried to insulate itself against the deflationary effects of losing gold by having the central bank extend its reserve credit in an amount roughly equivalent to the gold loss; while the gold-receiving country attempted by the opposite process to nullify the price effects of inflowing gold.

Many proposals for management of the gold standard have been made, among which should be mentioned that of the Genoa Monetary Conference of 1922. Very briefly summarized, this plan called for central-bank cooperation with a view to stabilizing the world value of gold. When prices start to rise, a restrictive credit policy would be followed; and, conversely, when prices begin to fall, credit expansion would be encouraged. Thus,

instead of currency units being tied to the value of gold, the latter would be tied to currency units of relatively steady purchasing power. The great advantage held out for the scheme was that it promised both stable prices and stable foreign exchanges. Its practical drawback is the fact that such a large measure of international cooperation is at present beyond attainment. In addition, the scheme is subject to the theoretical criticism that the expressed ideal of price stability might at times be pursued at the sacrifice of the more basic ideal of *business* stability.

5. APPRAISAL OF THE GOLD STANDARD

The great merit of the gold standard lies in its encouragement to international economic cooperation. It is highly important that the world be on a common monetary basis with stable foreign exchanges. Otherwise, foreign trade and investment are seriously hindered, and there is always present a threat of one nation attempting to gain selfish trade advantage over the others through depreciation of its currency. This in turn necessarily leads to retaliatory steps by the other countries—competitive monetary depreciation, tariffs, quotas, exchange controls, and embargoes. Events since 1931 furnish an unfortunately large number of illustrations. Accentuated nationalism, intensified world poverty, and threats to peace are the inevitable consequences.

The gold standard unquestionably represents the simplest and most workable common monetary basis. It is the simplest in that the need for conscious international cooperation is held to a minimum; it is the most workable mainly because of the widespread public confidence it commands, which in turn makes adoption by all leading nations politically feasible.

The principal drawback of the gold standard is to be found in the disturbingly wide swings of the price level that may take place under its sway. In the past large changes in the value of gold have been due to the variations of monetary demand more than to any other single influence. New discoveries and improved methods of mining have also caused material changes at times. The demand in the industrial arts has remained relatively steady.

This all suggests that the permanency of the gold-standard area, in order to minimize variations of the monetary demand

for gold, is a first condition to stability of value. Such permanency, moreover, should be realized in greater degree if all nations enter into the arrangement. It also suggests that extreme fluctuations in gold value are more likely to occur if only one or a few nations comprise the gold area. To put the matter somewhat differently, the desirability of the gold standard is in direct proportion to the extent of its adoption. For example, the abandonment of the gold basis by all other countries would provide an excellent reason for similar action by the United States; and, conversely, general adoption of the gold standard furnishes plausible grounds for a like step on our part.

As we enter 1937, the probabilities point to a return of the leading nations of the world to a gold basis. But this basis is certain not to be of the prewar automatic variety. Instead, it seems most likely that a new form of managed gold standard will emerge—new in the sense that the objectives of management will be more precisely defined and perhaps quite different from those of the past. Stable exchange rates will be one aim; stable business and/or avoidance of marked changes in the price level may be the other goals.

II. BIMETALLISM

1. HISTORICAL BACKGROUND

The use of both gold and silver for monetary purposes dates back several centuries B.C. Coins were struck as early as 700 B.C. Silver, however, seems to have been used more extensively as money until the early part of the eighteenth century, when we find the leading nations adopting legal bimetallism. In England, Spain, and Portugal, the mints overvalued gold and undervalued silver, so that the coinage was composed mostly of gold. France, on the other hand, overvalued silver with the result that silver money predominated.

As we have seen, England formally established the gold standard in 1816. But legal bimetallism prevailed elsewhere in Europe until 1871–1875, when the leading countries adopted gold. As late as 1865, France, Italy, Switzerland, and Belgium formed the Latin Monetary Union which provided for a common basis of bimetallism. This Union broke down in 1874 when silver fell in value owing largely to its demonetization elsewhere. The

first monetary system of the United States, established in 1792, was bimetallic with a mint ratio of 15 to 1. Silver was overvalued and, therefore, became the effective standard. Gold did not circulate. But in 1834, the mint ratio was changed to 16 to 1. This overvalued gold, so that gold became the real standard, and silver ceased to be taken to the mint. The law that ended the legal bimetallic era in the United States was passed in 1873, later dubbed by the silver interests as the "crime of '73."

A powerful agitation for reestablishment of bimetallism continued, however, until the presidential election of 1896 when the issue was finally settled by the defeat of its leading proponent, William Jennings Bryan, by William McKinley. Little more was heard of the silver issue until the depression of the 1930's, when bimetallism was again strongly urged as a means of raising prices. Under the Inflation Act of May, 1933, it became a legal possibility. President Roosevelt was granted discretionary power to establish bimetallism, but he relied upon other inflationary methods and did not exercise this prerogative. Large purchases of silver are currently (1937) being made by the Treasury as directed by the Silver Purchase Act of 1934. This act, however, does not establish a legal basis for bimetallism in the traditional sense.

2. ESSENTIAL FEATURES

Traditional bimetallism called for the definition of the monetary unit in terms of both gold and silver. By the act of 1834, a dollar was defined as 23.22 grains of fine gold and as 371.25 grains of fine silver. This was a ratio of about 16 to 1 between the metals. A second essential was that the mint buy and coin all the silver and gold offered at the stated mint prices. It was also necessary that melting of coins for industrial purposes be freely allowed and that redemption of all circulating moneys in gold or silver coin be readily possible. A further requirement was that both gold and silver money be made full legal tender in payment of debts. Incidentally, it should be observed that the essentials of the system do not actually require coinage of bullion any more than does a monometallic basis. It would be sufficient for the central bank or treasury to buy and sell both metals freely at fixed prices in terms of paper currency in circulation.

3. APPRAISAL

The principal theoretical advantage urged for bimetallism is that it promises greater stability of the price level than does the gold standard. This expectation is based upon two assumptions: first, that the average value of both metals is likely to fluctuate less than that of gold alone; and second, that the so-called "compensatory action" of the double standard will keep the market values of the two metals the same as the mint prices. The first assumption may perhaps be granted on the basis of the law of averages, although it should be noticed that on many occasions the fluctuations of the combined values would be wider than those of gold alone. This would be true whenever the values of the two metals were moving in the same direction with silver showing the greater rise or fall. In fact, since silver has shown less stability than gold in the past, one is led to question whether its net influence would actually make for greater stability.

With respect to the "compensatory action," the argument runs as follows: A departure of the market values of the two metals from the mint prices would be impossible because of a compensating adjustment of monetary demand. For example, if the mint ratio is 16 to 1, and if, because of silver discoveries, the market ratio becomes 17 to 1, the latter would automatically be forced back to the mint ratio of 16 to 1. How would this take place? Since gold is undervalued at the mint, no newly mined gold would be sold there. In fact, the monetary gold stock would be melted, exchanged in the bullion market for silver, which in turn would be offered for coinage. Thus the simultaneous fall in the monetary demand for gold and the intensified monetary demand for silver would soon drive the market ratio back to the mint-price ratio of 16 to 1.

But the force of this compensatory action would be sufficient to keep the market prices in line with the mint prices only under a condition of international adoption of bimetallism on a common basis. In this, we find the telling catch regarding the practicability of bimetallism. Admittedly, it will not work in one or a few countries; and universal adoption on a common basis is beyond the realm of probability.

The explanation of why bimetallism will not work in one country alone rests upon: first, the failure of the compensatory

force to keep the market ratio identical with the mint ratio; and second, the operation of a monetary principle known as "Gresham's law." The weakness of the compensatory force results from the relatively small part of world demand for the metals represented by the monetary system of one country. Thus, in our preceding example, the market ratio would probably not have been brought back to 16 to 1 by the displacement of gold by silver in this one country's monetary system. Perhaps after the export of all the country's monetary gold the world-market ratio might find equilibrium at say 16.5 to 1. Every bimetallic experiment in history has broken down shortly after its establishment as a consequence of a discrepancy between the market and mint ratios of the metals.

As soon as such a discrepancy appears, Gresham's law is brought into play. This principle was formulated by Sir Thomas Gresham in his capacity as adviser to Queen Elizabeth in the sixteenth century. Put in simplest form it was: bad money drives good money out of circulation. Applied to bimetallism, the principle meant that whenever one metal became more valuable in the market than at the mint, it would be displaced in the monetary system by the other metal overvalued at the mint. The overvalued metal alone would thus be coined, and it would become the effective standard; *i.e.*, monometallism would result and bimetallism would exist only as a legal sham. We have already seen how this was the fate of legal bimetallism in every country that tried the system.

The point should be emphasized that not only does legal bimetallism become monometallism in practice, but the standard metal becomes the one showing the greater depreciation in the world bullion market. Such depreciation is most likely to result from a withdrawal of world monetary demand for one of the metals. Thus, the general adoption of the gold basis after 1871, was mainly responsible for a decline of the market-value ratio between silver and gold from 15.6 to 1 in 1870 to 34.7 to 1 in 1900. Under such circumstances a lone bimetallic country absorbs the cast-off and depreciated metal of the rest of the world. This in effect establishes monometallism of the least desirable sort; that is, upon the basis of the less stable metal, and the one rejected by the rest of the world. The chief advantage of international

monometallism, stable foreign exchange rates, is therefore not realized.

Bimetallism has also often been urged as a remedy for a shortage of monetary gold. The most authoritative analysis of the gold situation, however, finds that there is no actual or threatened gold shortage. Indeed, with the monetary value of the world gold stock marked up by devaluation and with the record gold production of recent years, the real problem is now a redundancy of gold. Even assuming a gold shortage during some future generation, bimetallism does not qualify as the practical remedy. It would be far simpler in such an event to reduce the gold content of the monetary unit by an appropriate amount.

III. NONMETALLIC STANDARDS

Some form of metallism is not, however, the only possible monetary standard. Several nonmetallic standards have been urged from time to time, and at least two of them have been tried. A country may muddle along on a drifting paper basis, or it may set up some variety of the commodity standard in which price stability is made the objective. In addition, it is conceivable that a country might manage its money with certain other aims in mind, such as stable wage rates, stable business, maximum output of industry, or equitable distribution of the national income.

1. THE DRIFTING PAPER STANDARD

Practically all actual experience with nonmetallic standards has been with the drifting paper basis. This standard, if it may be called such, has usually been ushered in under the pressure of war finance which forced a suspension of currency redemption in specie. It has been ushered out during the period of postwar reconstruction by a return to the metallic basis. Such a standard, therefore, might well be called an interim "war" standard, or a "government expenditures" standard. The point is that monetary objectives are largely disregarded because of a great national emergency. The value of money is cut away from its metal mooring and *drifts* with the volume of the treasury deficit which largely determines the quantity of money.

One may find as many good examples of the drifting paper standard as there have been major wars. The outstanding

illustration is of course the World War, when all countries left the gold basis, and when the currencies of Germany, Austria, and Russia depreciated until they were worthless. The note issue of the German Reichsbank rose from 5,045,899,000 marks at the end of 1914 to 496,507,424,772,000,000 marks at the end of 1923.¹ In 1924, the old notes were made convertible into new marks on the basis of one trillion to one. Italy and France were able to check the depreciation of their currencies, so that they finally returned to gold with the lira at about one-fourth, and the franc at about one-fifth their former gold value. England resumed her prewar gold basis in 1925.

Other good illustrations in the United States may be drawn from both the Revolutionary War and the Civil War. The notes issued by the Continental Congress were so overissued that they became worthless, and gave rise to the classic phrase, "not worth a continental." The Confederate currency issued during the Civil War likewise lost all of its value. In the North the irredeemable greenbacks depreciated about 65 per cent in 1864 but they were later made redeemable in gold at par in 1879.

In addition to war, certain other occasions for a drifting paper standard may arise. For example, the French assignats and *mandats*, 1716-1720, were the result of John Law's influence, unsound and speculative though it was, upon the Regent of France. Another occasion may be a severe world depression such as that of 1930-1936. For the most part the world's currencies have been drifting since the universal monetary breakdown. That is, few countries have formulated as yet a definite monetary objective to which they are more than temporarily committed.

There is an unfortunate popular tendency to identify all nonmetallic standards with the drifting paper standard. All the untold hardships of extreme currency depreciation are laid upon the nonmetallic doorstep. It is assumed that an inevitable consequence of a nonmetallic basis is violent inflation. Stated somewhat differently, the paper standard is often charged with much of the economic loss and injustice that should actually be attributed to the excesses of war finance and the ravages of war in general. Propaganda of this kind only serves to becloud monetary issues and to retard monetary progress. It leads to an

¹ J. P. Young, *European Currency and Finance* (Washington, Government Printing Office, 1925), Vol. I, pp. 526-529.

undeserved glorification of the metallic basis and to unjustified fears of a nonmetallic standard.

As a matter of fact, a nonmetallic standard is much better adapted to intelligent management than is a metallic standard. Indeed, when the time for substantial monetary refinements arrives, some form of nonmetallic standard is almost certain to prevail. Nor does the latter basis inevitably lead to inflation, as several experiences of history attest. For example, during the irredeemable greenback period, prices fell 36 per cent between 1864 and 1875, when the resumption act was passed. Before gold payments were actually resumed in 1879, the decline was 48 per cent.¹ Again, wholesale commodity prices in Italy declined 37 per cent between 1925 and the end of 1927, when the gold standard was resumed. And similarly, such prices in France declined 27 per cent between 1926 and the date of return to gold early in 1928.² In all three of these cases, the drop in prices was chiefly a consequence of deflationary monetary and fiscal policies of the government. Thus, not only is the inevitability of inflation on a nonmetallic basis a popular fallacy, but deflation is readily possible and has occurred on that basis. It is entirely a question of the character of monetary policy and management. This naturally leads us next to a consideration of those non-metallic standards which are not merely drifting but which pursue some definite objective.

2. THE COMMODITY STANDARD

a. Nature

The term "commodity standard" is often used to refer to those plans for monetary reform which have as their objective the stabilization of the commodity price level, or, what is the same thing, the prevention of variations in the purchasing power of money over goods. While such plans differ in details and methods, all rely on an index of prices to guide monetary policy. If the index should rise above the base-period level of 100, various deflationary steps are proposed to bring it back. Such steps include direct reduction in the volume of ultimate monetary

¹ Measured by the Index of the General Price Level of the Federal Reserve Bank of New York.

² The price declines in Italy and France are calculated from the wholesale price indexes for those countries published in the Federal Reserve Bulletin.

reserves, reduction in the reserves of commercial banks through sales of securities by the central bank and by higher central-bank rediscount rates, and increased legal-reserve requirements for commercial banks. Thus they all have the common aim of producing lower prices by a contraction in the effective money supply, *i.e.*, circulating deposits and hand-to-hand currency.

On the other hand, if the guiding price index should fall below the base-period level of 100, the foregoing steps would be reversed in order to expand the money supply, and thereby encourage higher prices.

b. Selection of an Index

A difficult problem of any commodity-standard scheme is the selection of a price index that accurately reflects changes in the value of money. If the purpose is to stabilize the general price level, an index such as that of the Federal Reserve Bank of New York would be appropriate (see Chart 1, page 28). If it is desired to stabilize wholesale commodity prices, then such indexes as those of the Bureau of Labor Statistics, the Annalist, and Professor Fisher would serve the purpose (see Chart 2, page 29). Incidentally, Professor Fisher's famous scheme for the "compensated dollar" is a plan to stabilize wholesale commodity prices as measured by his index. Finally, if the object is to secure stability of retail prices, an index such as that of the National Industrial Conference Board or the Bureau of Labor Statistics would have to be chosen (see Chart 3, page 31).

The difficulty of this problem, it should be observed, has two phases. The first phase involves a logical analysis of the value of money in its various senses and the selection of the concept that is basic from the standpoint of price stabilization. In other words, is it desired to stabilize the general price level, the wholesale-commodity price level, the retail price level, or some other segment of the price structure? When this question is satisfactorily answered, one is faced with the measurement phase of the problem. Accurate measurement is so important that a new price index may have to be designed for the purpose.

Inspection of the movements of leading price indexes reveals substantial differences. This precludes a "grab-bag" selection of a guiding index on the ground that they all move together. For example, between 1914 and September, 1929, the Bureau of

Labor Statistics wholesale price index rose 41 per cent, the National Industrial Conference Board cost of living index rose 63 per cent, and the general price index of the Federal Reserve Bank of New York rose 83 per cent. Assuming proportionate movements, stabilization of the general price index on a 1914 base would have produced a 23 per cent decline in the B.L.S. wholesale price index by 1929.

To take a more recent example, between 1926 and September, 1929, the general price index rose 7 per cent while the B.L.S. index fell 3.9 per cent. The one would have indicated a deflationary policy during this period, and the other would have called for inflationary monetary measures.

Moreover, if the stabilizationist concludes, along with J. M. Keynes, that retail prices—being fundamental in the consumers' economy—should be stabilized, he is faced with a special difficulty of measurement. This arises from the constant change in quality of finished goods bought by the consumer. The modern automobile, radio, refrigerator, and airplane—to mention a few examples—are only distantly related to products that bore the same name a few years ago. For this reason, unless a most careful adjustment be made, a retail price index is apt to reflect an inseparable combination of quality and price changes of the products. Since there is no way to measure quality changes, save by intelligent estimates, it may be practicable to include in the index only the more standardized articles. But such a restriction of the sample makes it less representative of the family budget of expenditures.

c. Appraisal of the Commodity Standard

The principal argument for the commodity standard is that the wide swings in prices that have occurred on a metallic basis may be considerably modified. There is no doubt but that the value of money has often been violently disturbed by the vagaries of monetary demand, new metal discoveries, and new methods of mining. Insofar as these disturbances can be eliminated, the commodity standard holds out an advantage over the old automatic gold basis.

But an attempt to stabilize the price level might go beyond such monetary factors, and might seek as well to offset influences connected with the basic demand and supply of goods. Here it

seems more likely that the effects would be injurious rather than constructive. For example, if prices decline because increased productive efficiency has lowered costs, there is good reason to let the decline stand. A larger volume of consumption is made possible, and in addition a desirable equilibrium between costs and prices is left undisturbed. It may also be urged that the cause of economic justice is served by enabling the creditors and other fixed-income groups to receive their fair share of the enlarged national income.

On the other hand, if offsetting inflationary steps were taken, the effect would be to upset price relationships which were previously in balance all along the line. A larger share of the national income would be shunted to profits of enterprise, which would in turn tend to encourage overinvestment, speculation, and unsound boom conditions in general. These conditions would inevitably be followed by depression with its scourge of unemployment. To put the matter differently, the expressed aim of price stability would in this case be pursued at the expense of the far more basic objective of business stability.

As with bimetallism, the commodity standard has the drawback of not lending itself readily to international adoption. Without wide adoption on a common basis, fluctuating foreign exchange rates would seriously impair international trade, investment, and cooperation in general. There would also be greater danger of competitive currency depreciation among nations than in the case of an international gold standard.

A final feature of the commodity standard that weakens its case is the fact that in practice price stability could by no means be attained. There is reason to believe that a fair degree of success might be realized in checking a rise of prices. The restrictive credit policies of central banks enumerated above are transmitted to the loan and investment policies of commercial banks and, thence, to the volume of circulating deposits and currency.

But the lessons of the recent depression indicate that no very immediate response can be expected from enlargement of bank reserves and artificially low discount rates. That is, when a major depression occurs, the pressure toward a substantial decline of prices is so great that offsetting monetary steps are swept before it. Moreover, if the depression and the accom-

panying lower level of prices persist for several years, it may, in the end, be unwise to return to the former price level. This would be true if the price system should reach a balanced position at a lower level. Under these circumstances, further inflationary steps would only make for the twin evils of price maladjustment and business instability.

The answer of the commodity-standard group to this charge is that their program of price stability would practically eliminate business booms and depressions and that the criticism is, therefore, entirely irrelevant. But the weight of authoritative opinion among students of the business cycle finds the causes of depressions far more complex and deep seated. In their view such a simple remedy would be naïve indeed, and would be likely to create more problems than it would solve.

For the foregoing reasons, the conclusion seems clear that a blind pursuit of the price-stability objective would be unwise because it would frequently conflict with the more basic aims of full and stable production, and equitable distribution. Nevertheless, insofar as price stability serves these ends, it should be regarded as a legitimate goal. In other words, it should be one of the guiding factors, but by no means the only criterion for, monetary policy.

3. OTHER NONMETALLIC STANDARDS

In addition to commodity price stability, certain other objectives have been suggested as guides for monetary management. An understanding of the meaning of these is essential to the later discussion of monetary and banking problems.

a. The Labor Standard

The labor standard calls for stabilization of wage rates, *i.e.*, the price of labor. This price can best be stated as the hourly wage rate of a composite unit of labor, including all grades of labor. The advantage urged for such a basis is that the pain cost of labor represents a factor that remains more comparable and stable from generation to generation than perhaps any other. But, while this is doubtless true, the standard is open to the possible objection that it would lead to a declining trend of commodity prices. This in turn might prove to be such a burden upon enterprise that curtailed output and unemployment would result.

Like the commodity standard, also, it does not lend itself to international adoption on a common basis.

b. The Basic Objectives

Business Stability.—Another proposal urges the use of the monetary system to promote *business stability*. The aim would be to check business booms by various restrictive monetary policies and to forestall or minimize depressions by inflationary measures.

Maximum Productivity.—Still another suggestion is that the goal of monetary policy be *maximum productivity*. This would doubtless call for a gradually rising level of prices in order to furnish business enterprise with an added incentive.

Equitable Distribution.—Finally, certain others would direct monetary policy toward an *equitable distribution* of the national income among the three groups: labor, capital, and enterprise. They would object to a gradually rising or even a stable price level on the ground that the profits share tends to be too large at the expense of labor and capital. Their proposal is a price level that moves inversely to the productivity of industry. In periods of industrial progress the fixed-income groups would then enjoy a share as a result of lower prices. On the other hand, these groups would be made to feel the pinch of a scarcity of goods along with other classes by enforcing higher prices. Such a scarcity might arise from war, drought, floods, strikes, excessive nationalism, and the like.

Appraisal—There can be no quarrel concerning the foregoing basic objectives, except that one aim should not be pursued to the exclusion of the others. It is conceivable, for example, that the business-stability enthusiasts and the proponents of equitable distribution might so seriously check output as to create a state of stable and equitable poverty. Ideally, the three basic aims should be happily combined in what we may call an “economic-welfare standard.” This would call for monetary policies which promote a maximum of welfare by striking a proper balance among the basic objectives on the one hand and immediately pressing monetary problems on the other.

But, while it is imperative that our monetary authorities keep the goal of economic welfare constantly before them, the practicability of this guide is open to serious question. Strangely

enough, its weakness grows out of its ultimate and fundamental character which necessarily makes it *abstract* and *indefinite*. All would agree with the aim, but there would always be sharp differences of opinion regarding the practical methods of attaining it. To use a recent illustration, both the New Dealers and the anti-New Dealers sought recovery from the depression. But the former believed in liberal Federal spending for public works, while the latter believed in rigid Federal economy and a balanced budget. For this reason, a more definite monetary guide, such as the gold standard, or perhaps a selected price index, is needed as a monetary hitching post.

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CHAPTER VI

MONETARY DEVELOPMENTS IN THE UNITED STATES

Practically all monetary systems have developed by a process of trial and error. Too frequently, however, the errors have not been corrected even after they have been discovered. This is especially true of our own monetary system which displays several unfortunate evidences of the trail of politics. With this chapter we begin a brief review of monetary developments in the United States.

I. IMPORTANCE OF THE STUDY OF OUR MONETARY HISTORY

There are at least three reasons why the study of the monetary history of the United States is important. First, such a study gives definiteness and concreteness to an understanding of the principles of money, because one can see how such principles have worked out in the laboratory of actual experience. For example, it was stated in the chapter on bimetallism that when two metals are freely coined and have the status of legal tender, the overvalued metal tends to drive the undervalued metal out of circulation, thereby bringing about a single standard. The actual operation of this principle is revealed during two different periods of our monetary history. Again, one of the desirable characteristics of subsidiary coins is that they should be short in weight so as to keep them in circulation. The failure to observe this simple principle deprived our country on one occasion of an adequate supply of subsidiary coins.

A second reason for the study of our monetary history is to ascertain how the present monetary system came into being. It is recognized by all monetary authorities that we have some undesirable kinds of money in circulation. The silver certificates, for instance, might well be eliminated. Why is it, then, that they exist? The answer to this question is to be found in the way our monetary system has developed. Like society itself, it is the result of haphazard growth, of trial and error.

Too often, also, political considerations have prevailed over monetary statesmanship.

Finally, the mistakes made in the past may serve as a guide to the future. The evil effects of an issue of paper money were well demonstrated during the Civil War days. A knowledge of these effects may well serve as a guide for the future.

II. THE KEYNOTE OF THE MONETARY HISTORY OF THE UNITED STATES

The keynote of the monetary history of the United States is to be found in a striving for "cheap" money. In the early days this strife arose partly from the poverty of the country, because a poor nation finds it very expensive to devote part of its capital and labor to mining and minting the metals necessary to perform the exchange functions. Hence, during this period of our history, attempts were made to neutralize this large expense by using foreign money as well as cheap substitutes for "hard" money. Much of this agitation for cheap money came from the debtor class, generally found in the new and sparsely settled regions, where farmers were obliged to mortgage their land. The debtors have always been well represented in Congress and by means of various political compromises they have been able to put their ideas of cheap money into the statutes of the land.

This strife for cheap money is still with us as evidenced by the inflationary measures actually adopted in 1933 and 1934, and by the many bills of this kind that came before Congress during the great depression. It is an example of the same sort of thing which we experienced in the United States during the period following the Civil War when the Greenback Party came into being, with opposition to the retirement of the greenbacks as its main issue. The strength of this Greenback Party was to be found largely in the agricultural sections of the United States, where the debtor class was prominent. We shall see, therefore, how at various times in our currency history the demand for cheap money reappears.

The monetary history of the United States may be divided into six periods, as follows:

1. Bimetallism with silver overvalued, 1792-1834
2. Bimetallism with gold overvalued, 1835-1861
3. The greenback period, 1862-1878

4. The "limping" gold standard, 1879-1899
5. The unqualified gold standard, 1900-1932
6. Devaluation and the provisional gold basis, 1933—

III. BIMETALLISM WITH SILVER OVERVALUED, 1792-1834

The Constitution gives Congress the power "to coin money, regulate the Value thereof, and of foreign coin." The granting of this power to Congress was a step in advance of the previous governmental scheme whereby each state coined or issued its own money, with disastrous consequences. Henceforth, this power was to be exercised by Congress so as to make for uniformity in coinage and money.

1. HAMILTON'S REPORT

Alexander Hamilton, the first Secretary of the Treasury, made a comprehensive investigation of the subject of money and submitted a deservedly famous report to Congress on the establishment of a mint. This was in 1791. The most important recommendations Hamilton made are as follows:

1. The monetary unit should be the dollar
2. The decimal system of coinage should be adopted
3. The bimetallic standard with a mint ratio of 15 to 1 should be used
4. Coins should be eleven-twelfths fine
5. Foreign coins should be allowed to circulate for a certain period

Hamilton argued for the dollar rather than the pound, because the people were accustomed to the use of the Spanish dollar, and because the decimal system of denominations was much simpler than the one used in Great Britain. Concerning the bimetallic system, Hamilton thought it would be better to have two metals than one, because two metals would make for a larger stock of the circulating medium. From this premise he argued that a larger stock of circulating media would make for smaller fluctuations in the price level. The ratio of 15 to 1 was suggested because it was the ratio then prevalent in Great Britain, with which we would carry on much trade, and at the same time was very close to the ratio prevailing in Holland. The fineness of the coins was based upon their greater wearing quality. Foreign coins were to remain in circulation because of the scanty supply of circulating medium.

2. THE FIRST MONETARY SYSTEM

The dollar was established as the monetary unit and the ratio was made 15 to 1, as Hamilton recommended. Coinage was made both free and gratuitous, an expensive procedure at a time when the country was so poor. Foreign coins were given legal-tender power. A mint was set up in Philadelphia.

While the mint ratio and the market ratio were about 15 to 1 in 1792, it was not long before the market ratio of gold and silver changed. The production of silver seems to have increased shortly thereafter; and in 1803 France established a ratio of 15.5 to 1. Under such market conditions the mint overvalued silver. That is, the mint treated 15 ounces of silver as the equivalent of 1 ounce of gold, while the market considered 15.5 ounces of silver as the equivalent of 1 ounce of gold. Consequently it was more profitable to sell gold as a commodity in the market and take only silver to the mint. Silver then became the cheaper money and the effective standard. Despite the comparatively large supply of gold coming from French and Spanish traders in the Southwest at the time, the export of gold from our shores as a result of the Coinage Act practically drained all the gold out of the country. This movement was accentuated by the French bimetallic ratio as well as the adoption of the gold standard by England in 1816. The total amount of gold that left our shores was estimated at \$6,000,000.

This exodus of gold left the field clear for silver dollars and other silver coins. Unfortunately, Spanish silver dollars with a greater silver content were in circulation. These were obtained by American traders in the West Indies, where both Spanish and American silver dollars had the same exchange value. The American traders would bring the Spanish silver dollars back to the United States, have them turned into the mint, and obtain a greater number of American silver dollars. Naturally, the American traders gained from this exchange and continued to do so until 1806, when Jefferson directed the mint to cease coining silver dollars. No more were coined until 1834.

3. THE FIRST BANK OF THE UNITED STATES

The First Bank of the United States owed its existence to Hamilton. It began operations in 1791 and continued until

1811. It issued about \$6,000,000 in notes, which circulated widely because of their good qualities. The Bank also improved the tone of the issues of state banks by presenting these notes to the issuing banks for redemption. Such a procedure tended to keep these state banks from overissue.

The currency situation deteriorated rapidly after the outbreak of the War of 1812 because many of the state banks suspended specie payment. The discount of such notes ranged from 10 to 30 per cent. Moreover, much of the Government money was in the vaults of the banks which had suspended specie payment. The general financial situation of the country was almost desperate. To remedy this unsound currency situation and at the same time to assist the Government, the Second Bank of the United States was chartered, to operate from 1816 to 1836.

4. THE SECOND BANK OF THE UNITED STATES

The Second Bank was a private corporation, although the Government did own stock in it, deposited some of its funds in it, and borrowed from it. The chief value of the institution lay in its ability to improve the currency. After the First Bank had ceased to exist, there sprang up a number of state banks that issued large numbers of bank notes. Between 1812 and 1817 the state bank-note circulation increased from \$45,000,000 to \$100,000,000. As was to be expected, most of this increase in the circulation took place in the frontier sections. Depreciation of these bank notes was inevitable; specie payment was suspended in 1814. The Second Bank and its branches improved this chaotic currency condition by presenting these state bank notes for redemption. This procedure tended to make the state banks conservative in issuing bank notes and thereby improved the quality of these notes. Before the Second Bank ceased its operations, the discount on state bank notes was only about 0.5 per cent.

Unfortunately, the charter of the Second Bank was not renewed because of the belief that the management was actively engaged in politics. There was also a strong pressure against the Bank from the South and West because the bankers in that section could not understand why they should be obliged to pay specie for their notes when they were presented for payment. It was

looked upon as a monopoly. The people in the West thought they were rendering tribute to a "money trust." President Jackson vetoed the bill to renew the charter in 1836, defending his veto on the ground that the Bank represented a money monopoly.

IV. BIMETALLISM WITH GOLD OVERVALUED, 1835-1861

Congress for various reasons changed the coinage law in 1834, when the bimetallic ratio was, in effect, changed from 15 to 1 to 16 to 1. The new ratio overvalued gold just as the previous ratio overvalued silver. The result was inevitable: gold drove silver out of circulation because the silver was worth more as bullion than as coins. This driving process, especially after the discovery of gold in California, left the country with no small change.

The discovery of gold in California in 1848 helped to provide money to fill the vacuum caused by the disappearance of silver. The yield from these mines in 1848 was about \$10,000,000; by 1849 it was \$40,000,000; and by 1853 it reached the large total of \$65,000,000. This El Dorado attracted foreign capital to our shores and proved to be of the greatest value to our currency and credit. It simply hastened the outflow of silver, however, and this lack of subsidiary coins became so serious that Congress was forced to pass the act of 1853.

This act changed the law relative to subsidiary silver coins which had gone out of circulation because their value as bullion was in excess of their value as coins. To meet this difficulty, Congress adopted the simple expedient of reducing the silver content of these coins so as to make them worth more as coins than as bullion—one of the desirable characteristics of subsidiary coinage. Their silver content was reduced by about 7 per cent; and their legal-tender power was limited to \$5. The act did not affect the silver dollar.

This legislation was successful. In a remarkably short time the country had a sufficient supply of small change. The supply of specie increased by about \$130,000,000 after 1849. For the first time in our history, we had a good supply of our own money by 1855. Foreign coins were deprived of their legal-tender power. The only exception to this was that Spanish-American fractional silver pieces were received at Government offices at reduced rates.

1. "WILDCAT" CURRENCY

Scarcely had the Second Bank of the United States ceased its operation before the state banks issued large quantities of notes. The way was open for bank notes based largely on faith, and little time was wasted in exploiting the opportunity. This whole period has been called the period of "wildcat" and "red-dog" currency. These notes were issued with little or no security; they did not circulate at par with gold; and they lacked the quality of contractility. The note issue increased from about \$59,000,000 in 1843 to approximately \$207,000,000 in 1860. Most of this increased note issue was used to finance the rampant land speculation which characterized part of this period of our history.

Many of these state banks endeavored not to pay their notes on demand. George Ade puts it thus.¹

It was in 1853 that my father ran a fur-trading station in Morocco, Indiana. The town was a blacksmith shop, two cabins hiding in a grove, 40 miles from a railway station, surrounded by lonely stretches of slough and virgin prairie. Deer and mink and beaver were plentiful, but settlers were miles and miles apart.

The town was so small and remote and hard to find that a band of enterprising promoters down at Indianapolis decided that it was entitled to a bank.

Those were the happy days of wildcatting. Morocco was in line for a bank because it would be impossible for the general public to visit any bank at Morocco. The idea, away back yonder, was to have the banks so far away from the banking public that no one could drop in and draw out money.

So the Bank of America was founded. The founders might have called it the Bank of the Western Hemisphere or the Bank of the Solar System, but they preferred to be modest. They deposited certain collateral with the state treasurer and then they floated \$75,000 worth of notes, redeemable only at the bank of issue. These notes went into circulation and finally one bold explorer went across the prairies on horseback and discovered the town of Morocco and inquired about the bank and demanded money on his notes and made so much trouble that the bank went out of business. The bankers said it was no use trying to keep a bank open if people insisted on coming in and asking for money on their wildcat paper.

¹ *The Making of a Trust Company*, pp. ix, x. This pamphlet is published by the Chicago Trust Company.

Even though the State Bank of Indiana was far in advance of most banks at that time, the state was a hatching place for unsound banks. For example, a circular letter was issued offering assistance to any person who wanted to start a bank in that state. The letter pointed out that the only cost necessary to start a \$100,000 bank would be \$5,000 necessary for organization expenses and plates to print the notes and \$5,000 as a margin to carry the necessary bonds to secure the note issue.

The result of this unsound banking was the issue of bank notes fluctuating in value. Some of the notes circulated at a discount of 3 per cent, some at 5 per cent, and many issues at a greater discount. Moreover, the value of the notes fluctuated from week to week. The worthless notes of failed banks were frequently passed in circulation, and counterfeiting was a common practice.

How was a merchant or businessman to know what a bank note was worth? If he accepted a note at par when it was worth only 90 cents, he lost money on the transaction. Almost all merchants and bankers had copies of the *Counterfeit Detector and Coin Guide*, which indicated with a fair degree of accuracy the discount on the notes then circulating. Assume, for example, that a customer of a grocery shop bought 10 pounds of sugar at 9 cents a pound and presented a \$2 state bank note in payment. The merchant or his clerk looked up the rating of the note, discovered it was at a discount of 10 per cent and then gave the customer 90 cents in change. All in all, this was the worst period of our currency history.

2. SUFFOLK BANKING SYSTEM

Not all bank notes, however, were so bad. The notes issued by the banks in New England and New York were much better than the others. The banks in New England were obliged to keep their notes at par after 1818 by the adoption of what has been called the Suffolk Banking System. The essence of this system was simple. The Suffolk Bank in Boston agreed to redeem any New England bank notes at par provided the bank would maintain a deposit of \$5,000 at the Suffolk Bank in addition to a deposit sufficiently large to redeem such of its notes as would reach Boston in the course of trade. It was thought that the interest received on this \$5,000 fund would

compensate the Suffolk Bank for doing this work. Naturally, the country banks did not like this scheme, for it was not thought that a bank could do business if it were compelled to redeem its notes at par. Hence, many of the country banks refused to accept the proposal. In that event the Suffolk Bank, joined later by other banks, presented these notes to the issuing banks for payment in specie. This was continued for some time until the country banks were forced to agree to the proposition of the Suffolk Bank. The result of this was to keep the notes of the New England banks at par so that they circulated throughout the United States and Canada. The system was a complete success and was not superseded until the establishment of the national banking system, which by imposing a tax of 10 per cent on state bank notes drove them out of circulation.

3. THE SAFETY-FUND SYSTEM

New York experimented with a safety fund as a means of protecting the holders of state bank notes. The banks of this state were obliged to contribute to a safety fund in proportion to their capital stock. The fund was invested by the state and was utilized to pay the creditors, depositors, and noteholders of the banks that failed. This was in 1829. Eleven bank failures from 1840 to 1842 called attention to some of the defects of the law, and it was changed in 1842 so as to use the fund to pay the noteholders, not the depositors. In 1846 the constitution of New York State was changed so that the holders of notes of insolvent banks had a first lien upon the assets and the stockholders were individually liable for an amount equal to their stock subscriptions. The safety-fund system ceased to operate shortly thereafter, although it is interesting to note that this principle of note issue is used in Canada.

Vermont adopted a system similar to the New York plan in 1831 but changed it a few years later so as to substitute the personal bonds of stockholders for the safety fund.

4. THE INDEPENDENT TREASURY SYSTEM

After 1833 the public funds of the United States were no longer deposited in the Second Bank of the United States. Instead,

they were placed in state banks selected by the President and the Secretary of the Treasury. Specie payment was suspended during the panic of 1837, and the Government could not obtain its funds in specie. Consequently, in 1840, and again in 1846, an independent treasury system was set up. This consisted of six subtreasuries in various cities. From 1846 to 1863 all the Government money in hard cash was kept in these treasuries, and after 1863 part of it was kept in the subtreasuries and part in the national banks.

In general, this treasury system was advantageous in its early days. For example, the Government was able to maintain specie payment during the panic of 1857 when it would not have been able to do so had it kept its money in state banks, because these banks suspended specie payment. Moreover, the currency was greatly augmented during this period because of state bank-note issues. Had the Government funds been deposited in the state banks, these banks would doubtless have increased their loans and notes with a probable increase in prices. By having the public funds deposited in these treasuries, this money could not be used as the basis for loan expansion and note issue. This was doubtless desirable at the time because of the speculative practices of many of the banks. The subtreasuries, however, were a source of evil afterward, because of the disturbance to the money market of alternately locking up and pumping out large amounts of cash. The last one was discontinued on February 10, 1921.

V. THE GREENBACK PERIOD, 1862-1878

On February 25, 1862, President Lincoln signed a bill which provided for the issue of \$150,000,000 of irredeemable paper money having legal-tender quality. This was the first time in our history that the Government issued irredeemable paper money. The first issue naturally led to other issues, with the evils that ordinarily follow in the train of fiat money—a depreciation in the value of the paper money measured either by the premium on gold or by the rise in prices, an increased cost of financing the war, an inequitable redistribution of wealth and income, and, finally, a long struggle in which most of the cheap-money heresies were again brought to light before specie payment was resumed.

1. REASONS FOR THE ISSUE OF GREENBACKS

How are we to account for the issue of this paper money? That evils would surely follow was well known; these evils were pointed out by members of Congress. The justification for the issue was necessity. In no other way could the Government meet the financial burden thrown upon it at the time, so it was argued. It was a case of issuing paper money or of losing the war with the dissolution of the Union. Congress probably thought it better to choose the lesser of two evils. In order to understand and appraise the argument based upon necessity, it is desirable to examine the financial condition of the country at the time this paper money was issued.

The banks had suspended specie payment in 1861 for numerous reasons. First, there had been a large movement of specie from New York City to the interior because of the breakdown of confidence in New York banks. This in turn was due to the failure of the Government to float successfully a large loan. Second, the report of the Treasury in December, 1861, was a distinct disappointment, because it showed expenditures of about \$214,000,000 over the estimate and receipts of about \$25,000,000 less than the estimate. It was thought at this time that Secretary Chase would present a fairly comprehensive plan for increased taxes as a means of financing the war. Unfortunately, Chase, like many other men in public life, probably underestimated the length of the war and had not drawn up a comprehensive financial program. The third reason was the Trent affair, which indicated the possibility of war with Great Britain.

These three events were a great shock to the credit system. Hence, the banks in the interior called for their balances with New York banks, decreasing the deposits of such banks by about \$17,000,000. Moreover, the New York banks were compelled to pay gold into the subtreasuries for their bonds, and, when this money was again paid out by the Government, it did not return to the banks because of the collapse of credit. Accordingly, the New York banks agreed to suspend specie payment on December 30, 1861. This policy was afterward followed by almost all the banks of the country. As soon as the banks did this the Government was obliged to cease redeeming in coin the greenbacks then in circulation.

Thus it was evident that financial conditions were far from satisfactory in the early days of the Civil War. What was to be done? There was no time to be lost. Congress thought it wise to issue irredeemable paper money and clothe it with legal-tender power so as to give it momentum.

2. EFFECTS OF THE GREENBACKS ON THE CURRENCY

One of the first results of this issue was to change the constituents of the circulating medium. The paper money became its own standard because it was legal tender and was not redeemable in gold. It naturally drove hard money out of circulation. This driving-out process continued until many of the small coins were no longer in circulation. To meet this difficulty the second Legal Tender Act of 1863 provided that \$35,000,000 of the authorized issue of \$150,000,000 should be in denominations less than \$5 but that no note was to be for the fractional part of a dollar.

What, then, became of the gold? It was driven out of circulation and used as bullion. Its chief avenue of escape from the country was through international trade and exchange, because gold is the only kind of money accepted for international payments. How was an importer in the United States able to secure this gold when he could not get it from the banks? To take care of that problem there came into existence in New York City a Gold Room where gold was bought and sold just like wheat or any other fungible commodity. The premium on gold fluctuated from time to time in accordance with conditions explained later. The Gold Room was of great value to importers because they could get present and future quotations on gold which enabled them to compute the cost of imported commodities and determine their prices and profits. Congress thought that this dealing in gold—of course it was called gambling, as one might expect, because it took place in New York City—caused the fluctuations in the value of greenbacks and at once proceeded to legislate the gold market out of existence. The law was later repealed, however, because it was realized that the tail did not wag the dog. The Gold Room continued to exist until shortly before specie payment was resumed in 1879.

The most important effects of an issue of irredeemable paper money are to be seen in the level of prices. There remain for consideration, therefore, the price of gold and the prices of com-

modities and wages. These have been studied with a great deal of care by Professor W. C. Mitchell. The figures in Table 5 are taken from his book, *Gold, Prices, and Wages under the Greenback Standard*.¹

3. EFFECT OF GREENBACKS ON PRICES

a. The Price of Gold

The average price of gold in terms of greenbacks amounted to 113.3 in 1862; by 1863 it was 145.2; and by 1864 the figure stood at 203.3. Thereafter the premium on gold began to decline, the average for 1878 being 100.8. The highest price for gold was reached in July, 1864, when the figure stood at 285. Put in another way, the greenback dollar was then worth only 35.09 cents in gold. This premium was eliminated shortly before specie payments were resumed in 1879.

The fluctuations in the value of greenbacks were due to the esteem in which they were held. The Gold Room simply reflected the market conditions in terms of a premium on gold. This esteem in turn was due to several factors, such as the number of notes outstanding, the war news, the condition of the Treasury, the ability of the Government to borrow, and changes in the officials of the Treasury Department. These material events, each in turn, increased or decreased the esteem in which these notes were held; they added to or detracted from the confidence which people had in the ability of the Government to redeem these notes in gold on demand.

b. Prices of Commodities and Labor

Table 5 shows the course of wholesale prices, retail prices, and wages under the greenback standard. Wholesale prices started upward early and continued their trend sharply until 1865. Then they broke steadily until 1879 when the index reached a low point of 88.

Contrary to the usual pattern, retail prices rose faster than wholesale prices in the early years of the war but lagged behind after 1863. Their peak of 180 was reached a year later in 1866 after which they trailed the wholesale division in the general decline.

¹ See pp. 1-15 of Professor Mitchell's book for the fluctuating prices of gold. It was during this period that Jay Gould tried to corner gold.

TABLE 5.—PRICES AND WAGES, 1860-1880
(1860 = 100)

Year	Wholesale prices	Retail prices	Wages
1860	100	100	100
1861	97	104	100
1862	103	115	101
1863	133	143	112
1864	179	170	125
1865	185	176	149
1866	177	180	160
1867	162	172	168
1868	158	164	169
1869	157	174	175
1870	139	157	175
1871	131	146	179
1872	134	144	177
1873	133	137	176
1874	130	136	172
1875	123	134	160
1876	113	129	153
1877	106	127	144
1878	95	122	141
1879	88	118	138
1880	105	118	139

SOURCE. W. C. Mitchell, *Gold, Prices, and Wages under the Greenback Standard*, p. 279.

Despite the rise in living costs, wages remained practically stationary during the first three years. After that they rose steadily until 1871, but with such a lag that labor suffered great hardship until the cost of living turned downward in 1867. The fact that money wages were relatively higher than prices in 1880 doubtless reflects the gains in industrial efficiency during the period.

4. EFFECT OF GREENBACKS ON THE COST OF THE WAR

The issue of greenbacks was an expensive method of financing the Civil War. Prices continued to advance with each new issue, and the Government was compelled to pay higher prices for war materials and supplies. Thus, what was apparently saved by issuing this irredeemable paper money was more than offset by increased costs.

It is, of course, almost impossible to present any accurate figures showing the influence of the greenbacks upon the cost of the war. Estimates have run from \$300,000,000 to \$1,000,000,000. Professor W. C. Mitchell states that about \$589,000,000, or about one-fifth of the public debt in 1865, was due to the substitution of greenbacks for metallic money. It is safe to say that the issue of greenbacks cost the people more than \$500,000,000.

5. THE STRUGGLE FOR RESUMPTION OF SPECIE PAYMENT

The Civil War ended in 1865. It was expected that the greenbacks would be retired as soon as the war was over. However, they continued to circulate as the standard for fourteen years more. Why was specie payment not resumed earlier?

One argument made against contraction was the argument of private interests. As Table 5 indicates, wholesale prices fell before Lee surrendered. A contraction of the currency would have produced a still further decline in prices. This would have been a heavy burden to the debtor class, for debts would have had to be paid in money of greater purchasing power. The debtors were not slow to realize this fact, and they gave their support to the Greenback Party, which opposed the retirement of the legal-tender notes.

This debtor argument was also applied to the Government. The public debt at the time was large. It had been contracted when prices were high. Had the currency been retired, the price level would have dropped, and it would have been more difficult for the Government to levy and collect the taxes necessary to pay the interest and principal of the debt. The burden of taxes would have been much greater under a low level of prices. Hence it was argued that the greenbacks should continue to circulate so as to make the tax burden a lighter one.

By a most extraordinary political phenomenon, Congress passed a Resumption Act in 1875. The Republican Party had been thoroughly discredited at the polls, so that it was no longer necessary to play politics. Having nothing to lose, Congress passed a Resumption Act which set the resumption of specie payments for January 1, 1879, wisely leaving the method to the Secretary of the Treasury.

Sherman's problem while Secretary of the Treasury was not an easy one. Congress had, of course, stated that specie payment was to be resumed on January 1, 1879. But the law did not resume specie payment. The way to resume was to resume, *i.e.*, to pay out gold on demand to the noteholders. Sherman's problem was to obtain an adequate stock of gold. He got it from three sources. First, he accumulated a considerable surplus out of the gold paid for import duties. Second, he sold some Government bonds in Europe and took the proceeds in gold. This was a somewhat difficult matter because of the uncertainty of resuming gold payment and because of the current silver agitation. Third, the country was very fortunate in having a favorable trade balance in 1878. Gold was shipped from other countries to pay for this balance.

Sherman came to the conclusion that he needed a gold reserve of about 40 per cent against the greenbacks then outstanding to the amount of \$347,000,000. This meant about \$138,000,000 in gold. By January 1, 1879, he had obtained \$133,000,000 in gold. To facilitate resumption, Sherman persuaded the clearing-houses in New York and Boston to permit balances to be paid in legal tender and to abolish their gold deposits. Had this not been done, some bankers might have imperiled the gold reserve by presenting their drafts to the subtreasury for gold. Sherman also instructed the Government officers to receive either gold or legal tender in payment of Government dues. These various devices tended to economize the use of gold and made it easier to resume. Shortly before the first of January, 1879, the gold premium disappeared.

CHAPTER VII

MONETARY DEVELOPMENTS IN THE UNITED STATES.—

(Continued)

VI. THE "LIMPING" GOLD STANDARD, 1879-1899

The years from 1879 to 1899 have been aptly termed the period of the "limping standard." Gold was freely coined and possessed full legal-tender power, but at the same time silver, although not freely coined, was also full legal tender. The quantity of silver coined on Government account, however, was large enough to threaten the gold basis. Political compromise caused by a desire to placate various industrial interests was responsible for this betwixt-and-between standard. Before it was over, the country had been plunged into one of the worst panics it had ever experienced—a panic due largely to the failure of the two political parties to meet the money question squarely. Indeed, it was not until 1900 that the money issue was settled with finality.

1. THE SILVER MOVEMENT

The cheap-money advocates, having lost out in their attempt to make greenbacks the standard, then proceeded to pull the silver arrow from their cheap-money quiver. Before their agitation was over, Congress passed two silver purchase acts. To understand this silver movement, it is necessary to go back to 1873.

a. The Background

Two events in 1873 gave the silver movement considerable stimulus. In that year Congress revised the money system by making the gold dollar the unit of value, discontinued the free coinage of silver dollars, and provided for the coinage of new gold pieces. It also provided for trade dollars, to contain 420 grains of silver; these trade dollars were to compete with the Mexican dollars used in trade with the Orient.

The act merely gave legal sanction to an existing economic fact as far as the old silver dollar was concerned. These had not

circulated under the provisions of the act of 1834 because the ratio overrated gold and underrated silver. Hence, silver did not remain in circulation. None the less, certain members of Congress afterward called this the "Crime of 1873." They claimed that the act was jammed through under cover and that it constituted a serious political crime. As a matter of fact, the bill was pending in Congress for three years, printed thirteen times, and was the subject of considerable debate in both houses.

The act of 1873 was perhaps a blessing in disguise. Had the old legal bimetallic ratio continued to exist, it would have been difficult, perhaps impossible, to have resumed gold payment in 1879, because at that time the market ratio of gold and silver was 17 to 1. In other words, the ratio then in existence would have caused the disappearance of gold from our shores, and silver would have been the standard.

The second event leading to this silver agitation was the sharp fall in prices which began in 1873. The panic of that year was quite severe. Prices declined rapidly. This was especially true of the prices of agricultural products. But why not neutralize the effects of falling prices by having more money? This was a simple procedure. Consequently, those who suffered as a result of falling prices favored the silver movement and refused to be "crucified on a cross of gold."

The price of silver fell along with the general level of prices. In fact, owing both to a material decline of world demand for silver for monetary purposes and an enlarged supply from the mines, the price of silver fell more than other prices. The price fell in London from 62*d.* per ounce in 1860 to 30*d.* per ounce in 1895; and the market ratio between gold and silver changed from 15.29 to 1 to 31.57 to 1.

The silver-mine owner was disgruntled. He could not sell his silver at so high a price as before. The debtors were also disgruntled. In addition, there were many people who believed the propaganda and really thought that a crime had been perpetrated in 1873. This great triumvirate was sufficient to make the politicians listen; two silver purchase acts were the result.

b. The Bland-Allison Act of 1878

The Bland-Allison Act provided for the purchase of not less than \$2,000,000 and not more than \$4,000,000 of silver by the

Government each month. This silver was to be coined into dollars of 412.5 grains of standard silver.

The amount of silver to be bought each month was left to the discretion of the Secretary of the Treasury, subject, of course, to the two limits imposed by the statute. In practice, each Secretary bought the minimum. Moreover, it is to be noted that the silver was to be purchased for so many dollars. Obviously, the amount so bought fluctuated with the price of silver. This price tended steadily downward until it reached a price of 80 cents an ounce in 1889. The result of this downward movement in the price of silver was to make it possible for the Government to buy more silver and issue more silver dollars. The average monthly purchases of silver amounted to about 2,000,000 ounces, which in turn made for an average monthly issue of 2,500,000 silver dollars.

The act also provided for the issuance of silver certificates secured by silver dollars. Unfortunately, the lowest denomination of these was \$10, an amount too large for them to remain in circulation. Of course, the silver dollars did not circulate very widely because of their bulk. Moreover, the banks did not like silver, and the New York Clearing House passed a rule forbidding its members to settle clearinghouse balances in silver dollars or silver certificates unless the amount was very small. These facts made it difficult for the silver dollars or the silver certificates to circulate, even though Congress appropriated money to pay the expense of shipping these coins.

In 1886 Congress reduced the denominations of the silver certificates to include \$1, \$2, and \$5. These bills supplied the people with large change and they continued to circulate. After 1886, the amount of dead silver in the Treasury decreased. This great increase in the circulation of the silver certificates was made possible by two other facts. First, the greenbacks were no longer issued in denominations less than \$5. Second, the national bank-note circulation declined greatly during this period, because the bonds securing these notes were being retired by the Government, thereby making for high bond prices and, consequently, lower profits on note issue. As a matter of fact, the national bank-note circulation declined from \$344,000,000 in 1880 to \$168,000,000 in 1891. The vacuum was filled in part by silver certificates.

Meanwhile prices continued to drop. Silver-mine owners and debtors were again dissatisfied. If the Bland-Allison Act had not brought about a rise in prices, the trouble was caused by the small amount of money issued under its provisions. The great trouble was the lack of sufficient money. What was needed according to the inflationists was another silver purchase act. The time was propitious because the Republicans were unable to muster enough votes to pass their tariff act. Why not strike a deal whereby the silver crowd would vote for the tariff and the tariff crowd vote for the silver purchase act? It was done. The tariff act was passed. The Sherman Silver Purchase Act soon followed.

c. The Sherman Act of 1890

The Sherman Act provided for the purchase of 4,500,000 ounces of silver each month at the market price but not to exceed \$1.29 an ounce. Dollars were to be coined for one year and after that only as much silver was to be coined as was necessary to redeem the legal-tender Treasury notes that were issued to purchase the silver. These notes were redeemable in either gold or silver coin at the discretion of the Secretary of the Treasury. Before the Sherman Act was repealed in 1893, the amount of these notes outstanding reached \$155,931,000. They were subsequently replaced by silver certificates, but the Treasury still reports a nominal amount of them in circulation—most of which has doubtless been lost or is in the hands of collectors.

The country was able to absorb the silver dollars and certificates issued under the provisions of the previous silver purchase act because of the vacuum in the circulation. But there was a limit to the amount of money that could be absorbed and still maintain the gold standard. The Sherman Act stretched this limit to the bursting point.

d. The Panic of 1893

At the time that the circulation was being increased about \$50,000,000 each year because of the Sherman Act, the Government embarked upon a policy of reducing its income by lower tariff duties and increasing its expenditures. Less gold was coming into the Treasury and more money was going out. Under these conditions, three ways were open by means of which a panic

might come upon the country. First, a shock to our credit might lead foreigners to sell vast quantities of American securities in America. If this were done on a large scale, it might lead to an outflow of gold sufficiently large to reduce the gold fund used for redeeming the various types of paper money in circulation and thereby throw the country off the gold standard. Second, the gold reserve might be weakened by a decline in trade and industry accompanied by a decrease in revenues from the tariff and internal taxes. Third, the issue of these treasury notes might become so redundant as to displace gold. This might also lead importers to pay their taxes in silver certificates, greenbacks, or treasury notes. As Jett Lauck puts it:¹ "While the condition of affairs in 1890 did not give reason to believe that any or all of these dangerous tendencies were immediately threatening, at the same time the existing state of affairs made their occurrence possible. They were all within the range of possibility and might operate singly or in combination." Within three years after the passage of the Sherman Act the gold reserve was almost depleted. The country was plunged into a panic with an ensuing period of depression, largely, if not entirely, because of this faulty monetary legislation. How did it come about?

During the last six months of 1890 about \$100,000,000 was added to the money supply of the country. Fortunately for us, we had a very large wheat crop in 1890 and the European crop was below expectations. This made high wheat prices and was instrumental in net gold imports of about \$34,000,000 during this year. The situation was changed in 1892. Our net loss of gold amounted to about \$50,000,000, in part because of our unfavorable foreign trade balance and in part because of the resale of American securities by foreigners who were concerned about our ability to maintain gold payments. This gold exodus continued throughout 1893.

The financial and monetary situation in 1893 was a precarious one. No gold was being added to the gold fund; instead, it was being reduced through payment of Government expenses. In order to obtain the gold necessary to ship abroad, the banks presented greenbacks and treasury notes for gold. About \$102,000,000 in gold was paid out in this manner, and all told about

¹ W. Jett Lauck, *The Causes of the Panic of 1893* (Boston, Houghton Mifflin Company, 1907), p. 34.

\$109,000,000 in gold was shipped abroad. The gold reserve was below the \$100,000,000 mark late in April, 1893. For the next five months it continued to be below that amount, causing a great shock to our credit. Congress repealed the Sherman Act, but the gold reserve continued to decrease. It stood at \$65,000,000 in January, 1894. To add political chaos to monetary confusion, Congress was at loggerheads with the President, who was a hard-money man, and would not pass the legislation necessary to sell bonds. Failing in this legislation, the Treasury fell back upon the Resumption Act of 1875 which allowed the sale of bonds. Two bond issues of \$50,000,000 each were authorized in 1894, but they brought only temporary relief because the gold to pay for these bonds was drawn out of the Treasury through the redemption of greenbacks. In a very short time after the second loan was floated, about \$80,000,000 was drawn out of the gold fund. By February, 1895, the gold fund stood at \$41,000,000 as a result of these loaning operations; and it was declining at the rate of \$2,000,000 a day. President Cleveland kept insisting all the time that the gold should be paid out as long as it lasted. The assistant treasurer in New York wrote the Secretary of the Treasury that he could hardly continue to redeem legal tenders for more than one day. Then a bond syndicate was organized to improve the situation.

This bond syndicate, headed by two international banking firms, took over an issue of 30-year 4 per cent bonds at 104½. The syndicate turned about \$64,000,000 over to the Government for the bonds; it agreed to get half this money in gold from Europe and to do all it could to protect the gold reserve. It endeavored to carry out this contract by securing a monopoly of the sterling exchange market. This worked for some time, but a coffee firm entered the field and agreed to sell sterling at a price less than \$4.90. This firm naturally got the business. All it needed to do was to have greenbacks redeemed in gold, ship the gold to London, and sell drafts against this gold.

The gold reserve declined from the summer of 1895 to the end of the year from \$107,000,000 to \$63,000,000. The syndicate agreement expired, and the monetary situation looked hopeless. Fortunately, there was a revival of trade and industry, and the currency question was met fairly and squarely by the two major political parties in the campaign of 1896. Mr. Bryan, running

on a free-silver platform, was defeated, while Mr. McKinley was elected on a platform which included a plank in favor of the gold standard. Congress passed the Gold Standard Act of 1900.

The passage of this act marked the end of a period of compromise between the advocates of bimetallism and the believers in the gold standard. It was a definite step in favor of the gold standard.

VII. THE UNQUALIFIED GOLD STANDARD, 1900-1932

Between 1900 and 1932, the monetary system of the United States was maintained upon an unqualified gold basis. The rules of the gold-standard game were strictly adhered to with the exception of a short period during the World War when gold export was prohibited.

1. THE GOLD STANDARD ACT OF 1900

This act declared that the gold dollar of 25.8 grains of gold nine-tenths fine was to be the standard unit of value and that all kinds of money were to be kept on a parity with the gold dollar by the Secretary of the Treasury. To accomplish this, a gold fund of \$150,000,000 was set up to redeem the greenbacks and the Treasury notes of 1890. Notes so redeemed were not to be reissued except for gold, so as to prevent an endless chain such as operated during the panic of 1893. This gold fund could not be used to meet the expenses of the Government; and, if it fell below \$100,000,000, the Secretary of the Treasury was to sell bonds and replenish it. Gold certificates were to be issued with gold coins securing them. The position of the silver dollar was unchanged. It maintained its full legal-tender powers and was not made redeemable by law in gold. The circulation of the silver subsidiary coins was restricted to \$100,000,000.

The Gold Standard Act also made some changes in the issue of national bank notes. First, these notes could be issued up to the par value of the bonds but not in excess of the capital stock of the issuing bank. Second, 2 per cent bonds could be used as security for the notes. Last, the issue of national bank notes in denominations of \$5 was restricted to one-third of the issue of each bank.

The panic of 1907 again called attention to the defective system of bank-note issue. This panic was essentially a monetary

affair. Banks suspended specie payment. In some cases the governors of the states declared every day a legal holiday so that the banks could close and would not be obliged to pay out specie. Specie was at a premium. Savings banks in many places required three months' notice before paying out deposits. Securities shrank in value. Clearinghouse certificates were issued in almost all cities. The result of this panic was the appointment of a commission by Congress to make a comprehensive study of banking and monetary conditions both here and abroad. An act was also passed at the same time to provide for emergency currency.

2. ALDRICH-VREELAND NOTES

The Aldrich-Vreeland Act of 1908 provided for an issue of bank notes to meet unusual demands. It was essentially an emergency arrangement to allay the fear of panic by making it possible to pay out currency. In order to obtain this currency, groups of not less than ten national banks having an aggregate capital and surplus of at least \$5,000,000 might form national currency associations. These national currency associations received from their constituent national banks securities in the form of approved bonds or commercial paper and then turned over to the national banks the Aldrich-Vreeland bank notes, using the bonds and commercial paper as security for the note issue. The act placed two restrictions upon the note issue: first, no national bank could have an issue of these notes in excess of its capital and surplus; second, the total issue of such notes was not to exceed \$500,000,000. National banks were obliged to maintain with the Treasury a redemption fund of 5 per cent of their notes. The issuance of these notes secured by special assets of the banks thus made it possible for the notes to expand.

But an elastic currency must contract as well as expand. This was provided by means of a graduated tax. If the securities back of the note issue were not United States Government bonds, the tax for the first month was at the rate of 5 per cent a year and 1 per cent for each additional month until the tax amounted to 10 per cent for the first year. After that, a flat tax of 10 per cent applied. This taxing provision had been used in Germany, where the note issue of the old Reichsbank

had been taxed after it reached a certain limit; it had been effective in contracting the circulation. As long as the demand for currency was pressing, the national banks could afford to pay the tax; thereafter they could not, and, consequently, they retired their emergency issue by depositing lawful money with the Treasury. This act was later extended for one year.

The Aldrich-Vreeland Act was amended in August, 1914, so as to allow a bank to issue notes up to 125 per cent of its capital and surplus; and the Secretary of the Treasury was given power to suspend the \$500,000,000 limit if he thought it necessary. These notes had already been engraved for emergency use. When the financial strain precipitated by the outbreak of the World War became acute in 1914, they were promptly put into circulation. Nearly \$400,000,000 of these notes were issued during 1914 and 1915, but, as money rates eased and the financial situation calmed, they were rapidly retired under the pressure of the tax penalty. Beyond question, this emergency money saved the country from another panic.

3. FEDERAL RESERVE NOTES AND BANK NOTES

One of the principal changes brought about by the Federal Reserve Act of 1913 was provision for a new kind of paper currency in the form of the Federal Reserve notes. These notes supplied the long-absent element of elasticity to the currency of the country. Since 1917, when the amount in circulation exceeded \$1,300,000,000, they have represented the largest element of the hand-to-hand circulation. Early in 1937, their amount exceeded \$4,000,000,000, and they constituted about 70 per cent of all paper currency in circulation.

The Federal Reserve Act also provided an arrangement for the gradual retirement of the national bank notes and their replacement by the elastic Federal Reserve notes. An intermediate currency was provided in the form of Federal Reserve bank notes, which were essentially like the national bank notes. While the Federal Reserve bank notes were little used for this original purpose, they were employed in an emergency growing out of the World War. The Pittman Act of 1918 authorized the Secretary of the Treasury to melt and sell abroad not more than 350,000,000 silver dollars. Since this involved the retirement of the silver certificates, Federal Reserve bank notes were to

be issued to take their place. In all, about 260,000,000 silver dollars were sold, and over \$259,000,000 of Federal Reserve bank notes were issued by the end of 1919. They were retired rapidly, however, as the silver was subsequently repurchased.¹

4. THE GOLD-STANDARD HOLIDAY

Another significant event during the period since 1900 was our temporary departure from the gold standard. This showed itself in three ways: first, our gold embargo; second, the unwillingness to pay out gold instantly on demand for notes; and, third, the depreciation of our currency in the international money markets.

Toward the end of 1917, the Secretary of the Treasury, contrary to the desire of the Federal Reserve Board, declared an embargo on gold. No person was allowed to ship gold out of the country unless he obtained a special license. The ostensible reason given for this procedure was the necessity of protecting our gold supply. Such a procedure had been adopted by other countries, and it was thought desirable to adopt it in the United States.

The result of this gold embargo was to depreciate the dollar in the international money market. When the dollar quotations abroad go below the gold point, gold is at once shipped to correct the situation. But when a law prohibits the shipment of gold, the dollar quotation abroad may be expected to drop greatly. It did. Our exchange in Japan and the Scandinavian countries was below its gold parity. The dollar also depreciated by 50 per cent in Spain.

5. INCREASE OF THE GOLD STOCK

A most significant monetary consequence of the World War was the marked increase in our gold holdings. The inflow came in two waves: the first before our entry into the War in payment for war supplies; the second after the War. Between early 1915 and midyear 1917, the stock almost doubled, from \$1,535,000,000 to \$2,933,000,000. It remained relatively stationary until 1920 when an inflow began which continued unabated until the end of 1924, and brought the amount to \$4,240,000,000.

¹ For a more detailed treatment of the subject of bank-note currency see Chapters XIV and XV.

This is accounted for mainly by the heavy demands of Europe for our products during the postwar reconstruction period. Then again in 1930, the crumbling financial position of many other countries led to a further rise in our gold stock to an all-time peak of \$4,708,000,000 in August, 1931. This represented nearly one-half of the monetary gold in the world. Shortly afterward, however, the world came to doubt our ability to maintain the gold basis. During September and October, 1931, we lost about \$700,000,000 and, after a short lull, another \$500,000,000 by the summer of 1932.¹ All demands for gold were met freely during both of these drains, and the gold standard was strictly maintained.

The great gold influx during the war and postwar period created difficult monetary problems both in this and other countries. Our problem was to prevent the newly acquired gold from leading to an unhealthy bank credit expansion and thence to a speculative boom and collapse. In this we evidently failed—although whether our failure was due to an excessive amount of bank expansion or to the character of such expansion is a hotly disputed issue. The problem of England and many other countries was to return to a gold basis and afterward to maintain that basis in the face of our absorption of gold. Unquestionably the maldistribution of the monetary gold of the world was one of the contributing factors leading to the great depression.

6. CURRENCY HOARDING AND THE COLLAPSE OF THE BANKS

The first real evidence of currency hoarding appeared in November and December, 1930, when 598 bank suspensions occurred. During 1931, 2,294 banks failed with a further deterioration of public confidence evidenced by a rise of about \$1,000,000,000 in money in circulation. Although failures were numerous in 1932, no further outbreak of hoarding occurred until February, 1933. But this was only the calm before the storm. Between February 1 and March 8, money in circulation rose from \$5,365,000,000 to \$7,251,000,000. Most of this was paid out in Federal Reserve notes, but toward the end people were demanding gold coin and gold certificates, and we were also losing

¹ The amounts here stated are in terms of the old gold dollar of 25.8 grains of gold.

gold to other countries. A complete breakdown of the banking system was then inevitable. President Roosevelt's first official act was the declaration of a nationwide banking moratorium on March 6, 1933.

VIII. DEVALUATION AND THE PROVISIONAL GOLD BASIS, 1933-1937

The final period, dating from the bank holiday includes a number of significant developments among which are the following: provision for an emergency currency; our formal departure from the gold standard; the Thomas inflation measure; the gold-buying experiment; the Gold Reserve Act of 1934 and devaluation thereunder; the Silver Purchase Act of 1934; and the retirement of the national bank notes beginning in 1935.

1. THE EMERGENCY CURRENCY

Among other things, the Emergency Banking Act of March 9, 1933, provided for an emergency currency. The Federal Reserve banks were authorized to issue Federal Reserve bank notes on the security of direct obligations of the United States or eligible commercial paper. When backed by United States securities, such notes might be issued up to 100 per cent but, against other security, only up to 90 per cent. The notes were made redeemable in lawful money but not in gold. Thus, if the public so desired, the banks were prepared to convert the bulk of deposits into currency.

When the banks were reopened, however, public confidence quickly returned. About \$1,200,000,000 of currency returned from circulation before the end of March. Under these circumstances, there was actually no need to issue the emergency notes. But as a matter of policy the Reserve banks gradually expanded their amount to \$209,000,000 at the end of 1933. Since that time, the notes have been retired as they became worn and unfit for circulation. Thus, for a second time the Federal Reserve bank notes served in an emergency capacity.

2. FORMAL DEPARTURE FROM THE GOLD STANDARD

The United States technically left the international gold standard when the bank holiday was declared and gold was no longer freely available for export. Moreover, the opening of

the banks did not bring a return to gold, since exports of the precious metal were narrowly restricted through the requirement of a Treasury license. Formal announcement of gold policy, however, was withheld until April 19, when the Treasury stated that no further licenses for ordinary purposes would be issued. The next day an executive order declared a gold embargo. Up to this time, it had been the general expectation that the previous gold basis would shortly be resumed, as evidenced by the fact that the discount on dollar exchange (in terms of francs) had been less than 1 per cent. But after the Treasury announcement, this discount widened immediately to 8 per cent and steadily rose to over 30 per cent by mid-July. The discount also reflected the direction of monetary policy as evidenced by the controlled inflation measure sponsored by the Administration and offered to the Senate on April 20 by Senator Thomas.

3. THE CONTROLLED INFLATION ACT, MAY 12, 1933

From May and June on, the monetary policies of the Administration appear to have been dominated by the counsel of Professor George F. Warren of Cornell University who was one of the President's close advisers. A summary statement of Professor Warren's theories will therefore be helpful at this point. He believed that the gold situation constituted the master cause of the depression. According to his statistical studies, a scarcity of gold, *i.e.*, the failure of the monetary gold stock to grow apace with the production of goods, developed after the outbreak of the World War. In addition, as the important countries resumed the gold standard in the postwar years, a large increase in the demand for gold occurred. These forces joined hands to raise the value of gold and to produce a sharp decline in prices. Furthermore, he believed that the great price deflation, with its accompanying price disparities, was responsible for most depression difficulties. It produced an unbearable debt burden and broke down the normal exchange of goods. He advocated, therefore, a reduction in the weight of the gold dollar (devaluation) of between 40 and 50 per cent which would add correspondingly to the dollar valuation of the country's gold reserve. According to his studies of the past relationship between gold and prices, this would approximately restore the former price level; and although his studies developed the long-run nature of the relationship, he

appeared to place great faith in the immediate effectiveness of such action.

In line with the above point of view, the Administration definitely committed itself to the attainment of a higher level of prices by monetary means as an integral part of the recovery program. In a radio address on May 7, the President stated: "The administration has the definite objective of raising commodity prices to such an extent that those who have borrowed money will, on the average, be able to repay that money in the same kind of dollar which they borrowed." He pointed out further that the powers sought in the controlled inflation measure would be used "when, as, and if it may be necessary to accomplish the purpose."

The act, as approved on May 12, 1933, conferred tremendous inflationary powers upon the President to be used at his discretion. Briefly stated, these prerogatives were as follows:

1. Arrange for the purchase of \$3,000,000,000 additional United States government obligations by the Federal Reserve banks.
2. Direct the issuance of greenbacks (United States notes) up to \$3,000,000,000 for the purpose of meeting maturing Federal obligations.
3. Provide for bimetallism, *i.e.*, the unlimited coinage of gold and silver at a fixed mint ratio.
4. Reduce the gold content of the dollar by as much as 50 per cent.
5. Accept silver in payment of foreign indebtedness not to exceed \$200,000,000 to be issued into circulation in the form of silver certificates.¹
6. The Federal Reserve Board (virtually controlled by the President) was authorized to change the reserve requirements against demand and time deposits.

There is little doubt that a full use of the foregoing powers would have been capable of producing currency depreciation of an extreme character, far beyond the desires of its most ardent proponents. But such use as was made of them only served to enlarge bank reserves without much immediate effect on the volume of bank credit or prices. No greenbacks were issued, and bimetallism was not established, although important concessions were made to the silver interests. The first power to be utilized was that relating to the Federal Reserve banks. Beginning in the last half of May, 1933, the Federal Reserve banks again resumed their security-purchasing program which had been held

¹ This power expired within six months. Since its effects were negligible, it will receive no further consideration.

in abeyance since August of the preceding year. By mid-November, their portfolio of United States securities was enlarged by \$600,000,000 to the record total of \$2,432,000,000 where it still stood in early 1937. This operation, together with a further decline in hoarding, caused the excess reserves of member banks to reach nearly \$800,000,000. In the usual manner, this was accompanied by a further easing of money rates. The use made of the other powers is described in connection with subsequent legislation.

4. GOLD POLICY AND THE GOLD RESERVE ACT OF 1934

a. The Mobilization of Gold

The policy of mobilizing all monetary gold in the hands of the Treasury and the Federal Reserve banks was pursued vigorously after the bank holiday. By a series of executive orders and Treasury regulations under the authority granted by the Emergency Banking Act, it became unlawful for any individual, partnership, or corporation to hold gold bullion, gold coin, or gold certificates except under Treasury licenses which were granted only for narrowly restricted purposes. Under the threat of heavy penalties, hoarders had gradually parted with their holdings until at the end of 1936, circulation had been reduced to \$95,000,000 of gold certificates from the peak on March 4, 1933, of \$763,000,000 of gold certificates and \$626,000,000 of gold coin.¹ The export of gold was virtually prohibited until devaluation of the dollar at the end of January, 1934. Little change occurred, therefore, in the monetary gold stock of the country up to that time.

b. The Gold-buying Program

Goaded by the inflation bloc, a further aggressive attempt to raise the level of commodity prices was launched by the Administration in October in the form of its gold-buying program. The plan was officially announced by the President in a radio address on October 22. After reemphasizing the Government's primary objective of restoring commodity prices, he stated:

¹ On January 31, 1933, the Treasury adjusted its circulation statement by omitting the reported amount of gold coin (\$287,000,000) which it was assumed had been melted, lost, or exported without record.

As a further effective means to this end (higher prices), I am going to establish a government market for gold in the United States. Therefore, under the clearly defined authority of existing law, I am authorizing the Reconstruction Finance Corporation to buy gold newly mined in the United States at prices to be determined from time to time after consultation with the Secretary of the Treasury and the President. Whenever necessary to the end in view, we shall also buy or sell gold in the world market.

Accordingly, on October 25, the Reconstruction Finance Corporation announced its willingness to buy gold newly mined in the United States at the rate of \$31.36 per fine ounce. This price was 52 per cent above the old statutory price of \$20.67 and \$1.56 higher than the market price of the previous day. Then by a succession of 23 steps, the official price was raised to \$34.45 by January 16, 1934, where it remained until devaluation at the end of the month. For legal reasons, payment was made in 90-day debentures of the corporation which were issued on a discount basis at the rate of $\frac{1}{4}$ per cent per annum. Early in November, purchases were extended to foreign markets through the Federal Reserve Bank of New York in order to exert a stronger downward pressure on dollar exchange.¹

Although numerous attempts have been made to appraise the program statistically, the shortness of the period and the tangle of forces at work necessarily permit only tentative conclusions. It is, nevertheless, of interest to observe what actually occurred while the plan was in operation. Over the three-month period, the price of francs rose about 12 per cent as compared with a 10 per cent mark-up of the official gold price. Except during November, however, when a speculative flight of capital was induced, the official price was 3 to 5 per cent higher than the price of gold in terms of French exchange. Evidently, foreign purchases of gold were not made in sufficient volume to produce a corresponding depreciation of the dollar on the exchange market. The prices of internationally traded staples rose in rough correspondence with the official gold price but those of "domestic" goods showed little change. The inclusive wholesale index of the Bureau of Labor Statistics advanced less than 3 per cent.

In a sense, the "gold-buying program" may be regarded as a preliminary step to the official devaluation of the dollar which immediately followed and to which attention is now directed.

¹ In all, \$117,000,000 of gold was purchased abroad.

c. The Gold Reserve Act

Important changes in the monetary system of the country were embodied in the Gold Reserve Act, approved by the President on January 30, 1934. The principal provisions were as follows:

1. The inflation act of May 12, 1933, was amended by setting the upper limit of revaluation at 60 per cent of the dollar's former weight. The lower limit of 50 per cent was left undisturbed.

2. Title to all gold coin and bullion in the country was transferred to the Federal Government in return for gold certificates to be issued at the old statutory price of \$20.67 per ounce of fine gold. Since practically all gold outside the Treasury was in the hands of the Federal Reserve banks, the chief immediate effect of this provision was the conversion of their gold reserves into gold certificate reserves.

3. Any profit that should accrue from a devaluation of the dollar was to be appropriated by the Treasury; likewise, the Treasury was to cover any losses entailed by increasing the weight of the dollar.

4. In the event of devaluation, a \$2,000,000,000 gold fund was to be established out of the devaluation profit to be administered by the Secretary of the Treasury to the end of stabilizing the exchange value of the dollar. The fund might be expended at the secretary's discretion for any purpose in connection with such stabilization, including the purchase of obligations of the United States, and he was empowered to deal in gold, foreign exchange, and such other credit instruments as he might deem necessary. The life of the fund was limited to a period of three years.

5. The circulation or coinage of gold was henceforth prohibited and the existing stock of gold coins was to be converted into gold bars. Redemption of currency in gold was prohibited except by the Reserve banks under Treasury regulations.

6. With the approval of the President, the Secretary of the Treasury was to issue rules and regulations to carry out the purposes of the act.

d. Devaluation

With the legislative background thus prepared, the President immediately (January 31) issued a proclamation reducing the legal weight of the gold dollar from 25.8 to $15\frac{5}{21}$ grains nine-

tenths fine. The dollar was thus devalued to 59.06 per cent of its former weight which corresponded to a price of \$35 per fine ounce. According to official computations, the dollar value of the monetary gold stock in the United States was thereby marked up from \$4,033,000,000 to \$6,841,000,000, or by \$2,808,000,000. Although the proclamation was to remain in force until repealed or modified, the President specifically reserved the right to change the weight of the dollar should the interest of the United States require. The Treasury also announced its willingness to purchase fine gold at the rate of \$35 per ounce (less the usual mint charges and less 0.25 per cent for handling charges) and to sell gold at \$35 per ounce (plus a handling charge of 0.25 per cent) subject to compliance with official regulations.

Since the Secretary of the Treasury expressed his intention to issue licenses freely for the export of gold in settlement of international balances, the steps taken marked a technical resumption of the gold standard. It was, however, of the gold bullion variety and the possibility of a further devaluation remained to question its permanency.

The immediate effect of the devaluation was to induce an enormous inrush of gold to the United States. On January 31, the French franc was quoted on the exchanges at 6.26 cents as compared with the new parity of 6.63 cents, and international bankers were thus enabled to reap a windfall profit as long as the wide discrepancy remained. New York drafts were sold for foreign currency which was converted into gold. This gold, in turn, was shipped to the United States and, upon arrival, was turned over to the Treasury for cash which was available to meet the original dollar drafts sold against it. Such was the mad scramble that insurance for gold shipment rose in London from the normal rate of 1s. per £100 to as high as 50s. As much as \$45,000,000 of gold was risked on a single ship. By mid-April, the franc rose to par and shipments were no longer profitable, but in the meantime the country's monetary gold stock had been augmented by over \$700,000,000 (new).

If we attribute the great inflow of gold to devaluation, its effect has been to treble the nation's gold stock which amounted to about \$12,400,000,000 at mid-July, 1937. This has created a new monetary problem resembling that which faced the United States after the gold influx of the war and postwar period. The

magnitude of the present problem, however, is far greater. Only by a courageous use of its new powers of credit control and with the full cooperation of the Treasury Department, can the Board of Governors of the Federal Reserve System hope to forestall an undesirable speculative boom and a disturbing rise of prices.

5. THE SILVER PURCHASE ACT OF 1934

The aggressive silver interests were not to be pacified by the President's order on December 21, 1933, providing for the purchase of newly mined domestic silver at $64\frac{1}{2}$ cents per ounce, or about 50 per cent above the then current market price. Several new silver bills immediately made their appearance with vigorous sponsorship in both the Senate and the House.

Under such strong political pressure, the President made a further concession to the silver group which took final form in the Silver Purchase Act of 1934, approved on June 19, 1934. Its principal provisions were as follows:

1. It was "declared to be the policy of the United States that the proportion of silver to gold in the monetary stocks of the United States should be increased, with the ultimate objective of having and maintaining, one-fourth of the monetary value of such stocks in silver."

2. The Secretary of the Treasury was "authorized and directed" to purchase silver, at home or abroad, in order to establish the above proportion but with price and time of accumulation left to his discretion, except that he should not pay over 50 cents an ounce for silver situated in the United States on May 1, 1934, and should never pay more than the statutory price of \$1.29 per ounce.

3. The sale of silver by the Treasury was likewise authorized whenever the monetary value of the stock of silver exceeds the 25 per cent proportion or when the market price of silver exceeds the statutory price.

4. Silver certificates were to be issued and placed in circulation by the Treasury in an amount not less than the cost of all silver purchased. They were also made full legal tender and redeemable in standard silver dollars though not in gold.

5. A tax of 50 per cent was applied to the profits from trading in refined silver bullion.

Although the Treasury has made heavy purchases of silver, it stands little nearer to its goal in 1937 than at the beginning, owing to the large increase of the gold stock which has simultaneously occurred. Between July 31, 1934, and the beginning of 1937, \$816,466,105 of silver bullion was added to the Treasury's holdings. But this was only 6.7 per cent of metallic reserves, and was \$1,697,000,000 short of the designated one-fourth.

The Silver Purchase Act should be repealed without delay in order to avoid further aggravation of our monetary problems and to put a stop to a needless Government expense. The release of silver certificates into circulation has the effect of increasing the reserves of the commercial banks and the Reserve banks. It thus intensifies the credit control problem of the Board of Governors. It is at loggerheads with both their policy and that of the Treasury Department of holding down the excess reserves of commercial banks. More concretely, it directly offsets the doubled member bank-reserve requirements that became fully effective May 1, 1937, as well as the recent program of sterilizing gold imports announced by the Treasury at the end of 1936. The only possible justification of the program is the subsidy to domestic and world silver interests which it represents; and this is no justification at all.

6. RETIREMENT OF THE NATIONAL BANK NOTES

Finally, a recent monetary development of importance was the retirement of the national bank notes, begun in August, 1935, and still in the process of completion as the notes become unfit for circulation. Their place is being taken by Federal Reserve notes and silver certificates.¹

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¹ For a full description of the retirement of the national bank notes see Chapter XV.

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CHAPTER VIII

THE FIELD OF BANKING

I. ORIGINS

Banking services are almost as old as trade itself. The need for them has grown apace with specialization of occupations, the extension of markets, and the rise of large-scale enterprise. Of course, there would be no call for such services in a Crusoe economy—not even for a medium of exchange. But just as soon as men began to specialize and to trade, the need arose for a medium of payment and a measure of values. With further commercial development, there arose shortly a need for specialized financial services. Collections from distant buyers became necessary, and the great hazards of transporting the precious metals called for other means of effecting payment. Sellers of goods, moreover, desired to receive immediate payment, and the purchasing merchants frequently wanted to defer payment until resale was possible. There was also an early need for safekeeping the precious metals, and for changing one form of coin into another. To meet these various requirements, a class of money changers and primitive bankers emerged.

Loans upon notes of merchants and upon property date back to the beginnings of recorded history. As early as the ninth century, B.C., bills of exchange baked in clay were used in Babylonia. Loans upon silver at interest, and loans secured by mortgages on land were recorded in the reign of Nebuchadnezzar (625 B.C.). Early banking attained its highest development in ancient Greece. Athenian bankers exchanged foreign and local coins, received deposits, made loans with the deposits entrusted to them, and transferred deposit credits. These advanced practices were carried by the Greeks to Rome where further refinement in technique developed. The *Argentarii* (Roman bankers) made a wider use of deposit transfers and of bills of exchange. This was partly a result of the added validity given to prevalent commercial practices by Roman law. In the Dark Ages that

followed the fall of Rome a marked retrogression in banking occurred along with all the arts of civilization. Probably this lost ground was not regained until the fourteenth century when trade began to flourish in Venice and Florence. The private bankers of Venice prospered and grew to a position of power, even lending to the King of England. But, like many modern bankers, they finally overextended their ability to loan and create deposits. Numerous failures in the last quarter of the sixteenth century led to the prohibition of private banking and to the establishment of a public bank (Bank of Venice) in 1587. This bank confined its operations with the public to receiving, paying, and transferring deposits of bullion and coins. At first the deposits were held in uninvested form. Subsequently, however, the fiscal demands of war led to government loans and to the issue of inconvertible paper. At the time of its liquidation by Napoleon in 1806 the deposits were some three times larger than reserves.

Shortly after the establishment of the Bank of Venice, the growing financial needs of commerce led to the formation of public banks in Amsterdam (1609) and Hamburg (1619). The primary purpose of these banks was to create a stable standard of values in a market where great confusion existed because of the variety of circulating coins—foreign and domestic, gold and silver, clipped and full weight. Coins and bullion were received on deposit, and credit was given in the amount of the standard money equivalent. These deposits, known as “bank money,” furnished a common medium in which to make domestic and foreign payments. They were transferred only upon a personally presented order. Both institutions were supposed to hold intact all specie deposits entrusted to them; *i.e.*, not to lend nor invest them. The Bank of Hamburg lived up to this standard but the Bank of Amsterdam failed to do so. When the latter failed in 1791, it was disclosed that loans had been made to the East India Company, to the city, and to individuals and that its reserves were but one-third of its deposits.

Banking development in England lagged somewhat behind that of Amsterdam but by the middle of the seventeenth century the goldsmiths of London were performing all of the essential banking functions. On the basis of deposits left with them, loans were made and new deposits were thus created. Payments were made by orders, similar to the modern check, directing the

transfer of deposits. In addition, the goldsmiths issued notes payable to bearer which circulated as money. These were the first bank notes. The Bank of England, the leading central bank of the world, was established in 1694. It differed from the earlier public banks in that it was a privately owned corporation granted the additional powers of issue and discount. In a sense, modern banking may be said to begin with the founding of this great institution.¹

II. INVESTMENT BANKING

1. ORIGIN AND DEFINITION

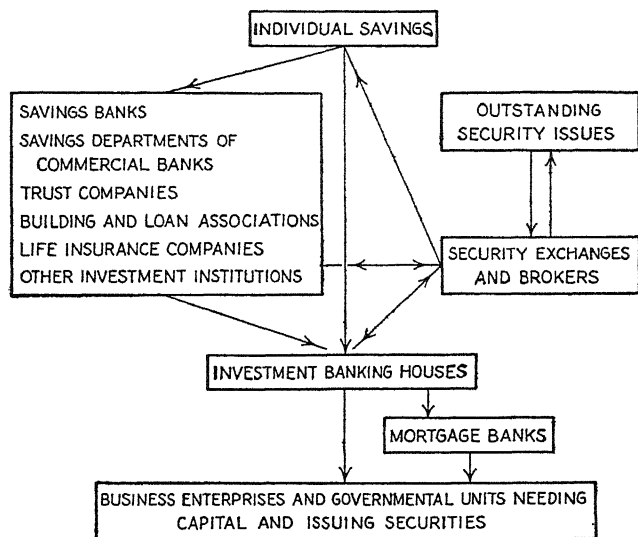
A useful distinction is usually drawn between commercial banking and investment banking. The former refers to the financial services performed in connection with the most liquid part of the wealth of the community. By "most liquid part" is meant those goods rather immediately approaching a market with final consumption or use a nearby prospect. These services include the holding, transfer, and creation of demand deposits as well as the extension of short-term loans to business for working capital purposes. Investment banking, on the other hand, is concerned with the flow and commitment of savings, *i.e.*, the financing of permanent capital requirements. Its origin dates back to the Middle Ages when wealthy private bankers made long-term loans to certain sovereigns. When government credit became sufficiently stabilized, houses of issue were formed which underwrote and sold government obligations to the public. By thus holding the purse strings, the Rothschilds, Fuggers, and others, rose to a position of great power. But the field of investment banking was comparatively narrow until the growth of large-scale enterprise after the industrial revolution. In order to amass sufficient capital under one management, it became necessary to adopt the corporate form of organization and to sell securities to the public. This called for highly specialized banking machinery, including security exchanges to provide ready marketability.

¹ For a full treatment of early banking development see J. L. Laughlin, *Money Credit and Prices* (Chicago, University of Chicago Press, 1931), Vol. II, Chs. II, III; and C. A. Conant, *The Principles of Banking* (New York, Harper & Brothers, 1908), Book V, Ch. I.

2. GENERAL DESCRIPTION OF MECHANISM

The accompanying chart should aid in understanding the structure and functions of the investment banking system. Individual savings (in the top rectangle) accrue in millions of small increments. Their final utilization is mainly by business corporations and governments (in the bottom rectangle) that raise large aggregates of capital by issuing stocks and bonds. All investment banking institutions, no matter what their special field,

CHART 4.—THE INVESTMENT BANKING SYSTEM



are or should be engaged in facilitating the flow of savings to corporations and governments that promise to utilize them most economically. The several institutions grouped in the square at the left converge the countless rivulets of individual savings into larger pools which are invested in securities offered by investment banking houses. They thus perform a specialized service, not in competition with, but complementary to, that of the so-called houses of issue. The latter (in the center rectangle) buy issues of securities from corporations requiring new capital and resell them to investing institutions and individuals. It should now be apparent that all of these investment institutions are middlemen in the capital-raising process. Brief

consideration must next be given to the services and operations performed by each type.

3. INSTITUTIONS

a. Investment Banking Houses

As indicated above, investment houses occupy the pivotal position in bringing together long-term lenders and borrowers. They receive proposals from corporations and governments to issue various types of new securities. These proposals must be exhaustively studied before acceptance or rejection. If, for example, a railroad is seeking \$100,000,000 through an issue of bonds, it is necessary for the house to consider among other things: the record of past earnings; the physical condition of the property; the financial position; the prospect for earnings in the future; and the current state of the investment market. Moreover, in order to develop an adequate basis for passing judgment upon the most important of these, future earning power, the inquiry must cover many broad and complicated questions. Some of these are: production trends in the country and in the territory of the road; development of competitive means of transport; probable tendency of government regulation; relevant international factors; the position of the business cycle; and the probable trend of interest rates and bond prices.

Should the decision be a favorable one, the investment house¹ buys the issue and, on the date and under the conditions agreed upon, turns the proceeds over to the railroad. It is most likely that the bulk of the money immediately advanced will be raised by a commercial bank loan, collateraled by the unsold securities. As the bonds are sold, the loan is repaid. The job of selling the issue falls upon the sales department of the investment house. Trained salesmen, operating out of the head office and branches in other cities, contact prospective buyers. It is also usual that numerous small, independent dealers as well as other large houses participate in the selling campaign. The customers are largely institutional investors—savings banks, commercial banks, trust companies, life insurance companies, and others. Wealthy individuals may likewise take a substantial amount. Should

¹ Usually a group of houses, called a "syndicate," underwrites all large issues. In this way the risk may be spread and each one is enabled to maintain a better balanced position.

the venture turn out favorably, the issue is sold to investors at a price sufficiently above the amount paid the railroad to cover selling expenses and leave a margin of profit. For a high grade bond the gross margin covers about 2 per cent for underwriting and 1 per cent for selling. Of course, an untoward change in the investment market or in the affairs of the railroad may make the sale of the bonds impossible except at a loss. It is chiefly for the assumption of this risk that the underwriting house receives a commission.

A few corporations have tried to cut the cost of raising capital by selling their securities directly to investors. Ordinarily, however, the services of an investment house are found to be worth the cost. Most business concerns need new capital only at intervals and are, therefore, in no position to maintain an investing clientele. Moreover, before undertaking an expensive program of capital outlays, the assurance is needed that a definite amount of money will be available at a specified time. Otherwise, the program may be held up by costly delays owing to the lack of funds.

In addition to these almost indispensable services to borrowing corporations, investment houses are charged with a large social responsibility. In a world of limited resources, the most important economic problem is that of achieving an efficient utilization of resources so that the standard of life may be as high as possible. Stated differently, it is essential that output be properly balanced in relation to the socially important wants. Otherwise, a waste of valuable productive power results. To a large extent, this problem is left to the decisions of the investment banker, assuming that his interests and those of society coincide. In an important sense, he holds the purse strings of industry by directing the flow of new capital. He may encourage some business concerns and stifle others; he may encourage some industries, even governments, and obstruct others.

b. Savings Banks

Savings banks exist primarily for the benefit of the masses in the lower income brackets. It is highly important from both the individual and social points of view that adequate facilities be available to encourage thrift. Millions of small deposits are gathered together by savings banks and made available for

productive purposes. About three-fifths of the deposits are committed to real-estate loans, the rest to various types of bonds (except a small reserve of between 3 and 5 per cent). Thirty days or more notice may be required before deposit withdrawals, although in practice the banks customarily waive this requirement.

The advantage to the small saver lies in the opportunity to invest as little as a few dollars with a high degree of safety in relation to yield and availability. This is possible mainly because of the enlistment of the services of investment experts and the greater diversification of risk achieved. To some extent, also, the legal restrictions upon investments of savings banks are responsible. The average person lacks the time, the technical knowledge, and the experience to make good investments. In addition, his savings are too small to permit of carrying out a balanced investment program. Should he have enough to buy one bond, which is unlikely, he would not have a sufficient amount to spread his risks by buying several bonds. But the smallest deposit in a savings bank represents a proportionate claim on the safety and yield of the whole investment portfolio. The opportunity to purchase such a claim is obviously advantageous to the small saver.

Savings banks in the United States are organized mainly on a mutual basis although stock companies assume considerable importance in the Middle West and in California. In a mutual bank the depositors are themselves the owners. They receive all net earnings from investments apart from the amount set aside for surplus or special reserves. The stock companies, on the other hand, are private corporations that agree to pay the depositor a definite rate of interest. Profits accrue to stock-

TABLE 6.—TIME AND SAVINGS DEPOSITS IN THE UNITED STATES
ON JUNE 29, 1935
(In millions of dollars)

Mutual savings banks.	9,918
Stock savings banks	728
National banks	7,246
State commercial banks	2,730
Loan and trust companies	2,577
Private banks.....	55
Total all institutions	23,254

SOURCE: Based upon statistics available in the *Annual Report of the Comptroller of the Currency*, 1935

holders only if gross earnings from investments exceed interest payments to depositors and other expenses.

It should be observed, however, that the mutual and stock savings banks hold only about one-half of the total time and savings deposits in the United States. The other half is held by the savings departments of commercial banks and trust companies and by the Postal Savings System. The accompanying table shows the amount of such deposits in each type of institution in 1935.

c. Trust Companies

While, as indicated above, trust companies hold a sizable amount of savings deposits, they are more important in the field of investment because of their various fiduciary services. They execute different kinds of individual trusts, such as executor or administrator of the estates of decedents, manager of trust funds for the living, and guardian of the estates of minors, mentally incompetent, and others not legally qualified to look after their affairs. In the exercise, also, of their corporate trust powers, they perform vital investment services. These include trustee under corporate mortgages, fiscal agent, registrar and transfer agent for securities, and receiver for insolvent and embarrassed corporations. It should be noted that these facts concerning trust companies apply equally to the trust departments of national and state commercial banks.

d. Building and Loan Associations

Building and loan associations are essentially a specialized type of savings bank. They pool the funds of small savers by the sale of capital stock in convenient form and by receiving time deposits. These funds are then loaned largely to members in the community for the purpose of building homes. Real-estate mortgages or contracts and stock in the association are taken as security for the loans. Since the first association was organized more than a century ago,¹ these institutions have come to occupy an important position in financing residential construction. At the end of 1934, there were 10,909 associations in the United States with assets of \$6,445,000,000.² Although

¹ In Philadelphia, 1831

² *Annual Report of the Comptroller of the Currency*, 1935, p. 146.

the largest development is found in New Jersey, Pennsylvania, and Ohio, associations are located in every state of the Union.

e. Mortgage Banks

Specialized mortgage banks were founded in the first instance to aid in the process of raising capital for agriculture. Without the intermediation of some agency, it was impossible for the farmer to tap the main reservoir of investment credit in the cities. At first, mortgage brokers merely brought farm borrowers and city lenders together on a commission basis. Then some of the more successful brokers established mortgage companies that made mortgage loans directly to farmers and sold their own notes or bonds, issued in convenient denominations and secured by the individual mortgages, to investors. Finally, certain abuses and inadequacies of the mortgage companies led, in 1916, to the establishment of the Federal Farm Loan System. This legislation concentrated mortgage banking in the twelve Federal Land Banks and the Joint Stock Land Banks. These institutions sold their bonds, backed by individual farm mortgages, in the investment market and were able to reduce materially the cost of long-term credit to the farmer. In the crisis of 1932 and 1933, it was necessary to bolster the mortgage market with Government credit. The Federal Farm Mortgage Corporation and the Home Owners' Loan Corporation took over large amounts of farm and urban mortgages from banks, insurance companies, and individuals, giving in exchange their own Government-guaranteed obligations. At the end of November, 1936, the outstanding loans of specialized mortgage institutions in the United States were as follows:¹

Federal Land Banks	\$2,065,719,000
Home Owners' Loan Corporation	\$2,801,827,000
Land Bank Commissioner	\$ 836,194,000

f. Life Insurance Companies

With the tremendous growth of life insurance since the World War, life insurance companies have come to occupy a dominant position in the fields of savings and investment. Owing to the large element of savings in the premiums of most policies, these institutions have actually become our greatest savings banks.

¹ *Federal Reserve Bulletin*, January, 1937, p. 65.

And, in the investment of their huge fund of reserves, they have become the largest class of investors in bonds and mortgages. At the end of 1936 the assets of such companies in the United States totaled nearly \$25,000,000,000.¹

g. Other Investing Institutions

In addition to those already described, there are certain other investing institutions that should be mentioned. These include investment companies; endowed institutions, such as colleges, foundations, and hospitals; and business corporations with more cash than is required for current operations. No comment is needed concerning the last two types, but a brief explanation of the nature of investment companies is necessary. These companies are designed to afford the investor, especially the small investor, the advantages of expert management and diversification of securities. They sell their own securities, issued in convenient denominations, to investors and use the proceeds for the purchase of a portfolio of bonds and stocks. The holder of a share of the investment company thus has a proportionate claim upon the earning power and appreciation prospects of the entire portfolio. While such companies have occupied an important place in Great Britain since the 1860's, American experience with them has been brief. Before 1920, they were almost unknown in the United States. During the 20's, however, a mushroom growth occurred mainly as an incident to the stock-market boom. By 1930, Keane's Manual reported the existence of 608 companies. The number has been somewhat reduced during the depression by failures and consolidations.

h. Security Exchanges and Brokers

An essential accompaniment of the growth of business corporations and large-scale enterprise has been the development of machinery to facilitate the ready transfer of outstanding stocks and bonds. Buyers and sellers are brought together by security brokers who are members of one or more of the organized exchanges.² A security exchange is an organization of security

¹ *Proceedings of the Thirtieth Annual Convention of the Association of Life Insurance Presidents*, 1936, p. 94.

² See Chart 4, p. 107.

brokers and dealers designed to provide a market for all listed issues. The New York Stock Exchange overshadows all others in the United States. On January 1, 1937, this great institution listed 2,621 issues of stocks and bonds with a market value of nearly \$105,000,000,000.¹ In addition, the New York Curb Exchange and over twenty other exchanges in leading cities list the less widely traded securities of local concerns. There is also a large over-the-counter business done by brokers in municipal bonds and other unlisted securities.

III. COMMERCIAL BANKING

1. PRINCIPAL FUNCTIONS

Commercial banks are frequently referred to as institutions of "deposit and discount." This descriptive title is particularly apt since it places emphasis upon their two main functions. More fully stated, these are: (1) to provide the greater part of the money supply in the form of deposits subject to check; (2) to make economically justified loans to business enterprises, primarily for working capital purposes.

In practice, so-called commercial banks perform many other more or less remotely related services. No institution, however, should be designated a commercial bank unless it both holds demand deposits and makes working-capital loans.

The first function is strictly monetary in character. Business firms, individuals, and governments follow the practice of keeping the bulk of their cash funds in the form of demand deposits with the banks. In a normal year the amount of this deposit currency is about five times larger than the volume of hand-to-hand money in circulation. Such deposits are transferred by the ordinary bank check which is the means of effecting some 90 per cent of all payments made in the United States. The use of the check, however, has not always been so important. Prior to the Civil War hand-to-hand money exceeded deposits. But since the sixties, the greater convenience and safety of the check has resulted in a steady displacement of common money. Its use is now largely confined to retail trade and wage payments. The widespread use of checks necessarily gives rise to a subsidiary banking service, check collections. Most deposits are made

¹ *New York Stock Exchange Yearbook for 1936.*

in the form of checks drawn upon other banks. These checks must be presented to, and paid by, the drawee banks before the funds actually become available. The tremendous physical task of collecting and accounting for several billion such items every year is one of the major banking operations, engaging a large part of the working force.

Although the second principal function has an important monetary aspect, it is more definitely a part of the capital-raising process. In addition to plant and equipment—fixed capital—business enterprises must make adequate provision for cash, inventories, and receivables. These items, which are normally turned over one or more times during the year, are classified as working capital. As we have seen, fixed capital is raised largely by the sale of stocks and bonds in the capital market. Working capital, on the other hand, is raised in part by the sale of securities and in part by borrowing at the banks. The method varies greatly among different types of concerns and within the same concerns, as conditions in the money and capital markets change. A simple example will, perhaps, serve to make clearer the nature of working-capital loans.

Consider the case of a department store. The big selling season falls in the last quarter of the year, reaching a peak in December with the rush of Christmas trade. In preparation for this season, shelves must be stocked with new merchandise in September, and further additions to inventory must be made during October and November. Bank loans will accordingly be arranged in these months to carry the merchandise pending sale and the receipt of payment. Part of the goods will be sold for cash, the rest on credit. The cash sales should permit some reduction of the loans by December, and the collection of receivables should enable the store to pay off the remainder during January and February. Borrowing will again be necessary to finance the spring buying season, and, if all goes well, these loans should be cleaned up by June or July.

Similar examples might be drawn from any field of business—manufacturing, mining, farming, or public service industries. All have a need for working capital and regularly or intermittently seek accommodation from the banks. Loans of this type have the common characteristic of financing an operation the completion of which is shortly expected from the normal flow of current

individual and business expenditures. In this sense they are self-liquidating in a short time in contrast with fixed-capital loans which are self-liquidating only over a considerable number of years. Neither type, however, can be quickly liquidated as a whole without precipitating widespread business failures, price deflation, and depression.

In this process of redistributing the community's pool of liquid resources through business loans, the commercial banks discharge a large social responsibility. Their decisions in granting or withholding accommodation are influential in determining the members of each industry and, to some extent, the relative positions of different industries. With a view to making these important decisions wisely, large banks maintain a specialized credit department which gathers and analyzes all information bearing upon the credit standing of actual and potential borrowers. It should also be observed that the credit policy pursued by bankers has much to do with the course of the business cycle. By pursuance of wise or unwise policies during the various phases of the cycle, business fluctuations may be minimized or accentuated.

Although the monetary aspect of the loan function cannot be fully explained at this point, a brief introduction to the subject is necessary. When the banks expand their loans and investments, new deposits are thereby *created*. In fact, most of the existing demand deposits originated in just this way. When a textile manufacturer borrows \$500,000 to finance the purchase of raw materials, the bank credits the amount to the concern's checking account. And the total of demand deposits is thereby increased unless offsetting reductions in deposits interfere. Later, when the loan is repaid, a contraction in total demand deposits tends to result. In summary, then, it may be said that commercial banks *create, hold, and transfer* by check the largest element of monetary supply—demand deposits.

2. OTHER SERVICES

In addition to the two essential functions of commercial banking just discussed, several other financial services are performed by the modern bank. This effort of one institution to offer a complete financial service is usually referred to as "department-store banking."

1. The banks serve as paying and receiving stations for hand-to-hand money. Their facilities enable the business community to adjust conveniently the amount and denominations of currency. Until recently, also, commercial banks have themselves issued common money in the form of bank notes. But, since the retirement of the national bank notes in 1935, such issuance has been confined to the United States Treasury and the Federal Reserve banks.

2. Facilities are provided for both domestic and foreign remittances. By maintaining balances with correspondents, the banks are able to sell checks (or drafts) on such balances acceptable anywhere in the civilized world. Several other specialized services are also afforded by the foreign department of a large bank, such as travelers' and commercial letters of credit, acceptance credits, and purchase and sale of foreign exchange futures.

3. The collection for customers of drafts, promissory notes, and other obligations constitutes an important service.

4. Most so-called "commercial banks" also maintain a savings department. These funds are employed chiefly for fixed-capital purposes by making real-estate loans and purchasing bonds.

5. An increasing number of banks have entered the trust field. Most of the large institutions perform both individual and corporate fiduciary services.

6. Facilities are furnished for the safekeeping of securities and other valuables.

7. Until recently many of the largest banks were important underwriters of securities. But the Banking Act of 1933 restricted such operations to the securities of cities, states, and other governmental units of the United States. This act also prevented further the purchase and sale of securities except for the account of the bank. In the previous decade even many small banks established bond departments for the purpose of selling securities to customers.

3. INSTITUTIONS

As the accompanying table indicates, commercial banking in the United States is carried on by several classes of institutions. Most important are the banks operating under a national charter. At midyear, 1935, they held about 51 per cent of total adjusted

TABLE 7.—NUMBER AND ADJUSTED DEMAND DEPOSITS OF INSTITUTIONS
ENGAGED IN COMMERCIAL BANKING IN THE UNITED STATES ON
JUNE 29, 1935

Institution	Number	Demand deposits (000,000 omitted)	Percentage of total demand deposits
National banks....	5,431	\$10,879	51.3
Loan and trust companies	1,007	6,427	30.3
State commercial banks	8,460	3,469	16.4
Private banks	243	332	1.5
Stock savings banks	341	105	0.5
Total.	15,482	\$21,212	100.0

SOURCE: *Annual Report of the Comptroller of the Currency*, 1935; adjusted demand deposits were derived by adding United States Government deposits to individual demand deposits and deducting "exchanges for clearing and other cash items."

demand deposits as compared with 30 per cent and 16 per cent, respectively, for trust companies and state commercial banks.

Other institutions engaged in specialized phases of commercial banking include commercial paper houses, finance companies, acceptance dealers, cattle loan companies, and factors. All stand in the position of middlemen between the lending bank and the borrower. Their function is chiefly that of furnishing specialized facilities and experience in making and supervising loans to a particular class of borrowers.

Central banking functions are performed in the United States by the Federal Reserve System. This consists of twelve regional Reserve banks owned by the member banks of the district and supervised by a Board of Governors in Washington, District of Columbia.

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CHAPTER IX

COMMERCIAL BANKING OPERATIONS

In order to gain a full understanding of commercial banking functions, described generally in the preceding chapter, it is necessary to examine the actual operations of the individual bank. These operations are first explained in a general way and are then illustrated in terms of their effect on the bank statement.

I. GENERAL DESCRIPTION

The nature of the commercial banking business can best be described by answering two questions: (1) what are the sources of the funds with which a bank operates; and (2) what are the uses to which these funds are committed? At this point we shall be concerned only with the principal commercial banking functions—not with the savings department or the other department-store financial services actually performed in most banks.

1. SOURCES OF FUNDS

As in any other business enterprise, there are but two main sources of a bank's funds, *viz.*, the contribution of the owners (shareholders), and that of the creditors. Despite this general similarity, however, the peculiar methods of raising banking funds require further explanation.

a. Proprietorship

The contribution of owners is represented on a bank balance sheet by three items: capital stock, surplus, and undivided profits. In most banks these items, taken together, constitute between 10 and 20 per cent of total funds. From the standpoint of depositors the function of the proprietorship equity is to provide a buffer of safety in the event of losses sustained by the bank. It is thus apparent that there is a certain conflict of interest between shareholders and depositors. The former are anxious for liberal earnings and dividends upon their invested capital.

This purpose is served by a low ratio of proprietorship to deposits. Depositors, on the other hand, seek a high degree of safety—an object which is furthered by a large ownership interest.

Capital stock, which is the most permanent element, is divided into shares, each with a fixed par value. Although the original amount is paid in by shareholders, changes may subsequently be made as a result of operations. A growth of earnings may lead to an increase of capital stock out of earned surplus. On the other hand losses may result in a reduction of capital stock.

Current earnings are first carried to the undivided profits account and are subsequently paid out as dividends or transferred to the more permanent surplus account. The undivided profits item thus represents a small transitory reservoir through which earnings flow to their destination. If the flow to surplus is large and steady, this item may grow until it exceeds the amount of capital stock. Such is the case in many of the country's old and successful banks. But, if the bank should sustain losses, either from current operations or declining investment values, a corresponding write down of surplus would become necessary. Should the losses be sufficiently severe, a part or all the capital stock would also be wiped out. Unfortunately, recent illustrations of this situation are all too numerous.

b. Deposits

By far the most important source of a bank's funds is the deposits of customers. This item is usually between four and nine times larger than proprietorship. As stated previously, these deposits consist principally of the checking accounts of business firms, governments, and individuals, and they represent the largest element of monetary supply. In another sense, they may be thought of as borrowed money. When a customer deposits \$1,000 he actually *lends* this amount to his bank. The banks thus operate largely with borrowed funds, a practice which is called "trading on the equity." Although most types of concerns trade on the equity in greater or lesser degree, the banks furnish an extreme example of the practice. When carried too far, the margin of safety for deposits becomes too thin. While it is difficult to lay down a general rule, this point is reached in most banks when deposits become more than seven or eight times larger than proprietorship.

c. Bills Payable and Rediscounts

In addition to operating with money borrowed from depositors, the banks borrow intermittently from other sources when their reserves run low. The items, "bills payable" or "rediscounts," represent such borrowing on the bank statement. Prior to the Federal Reserve System the large city banks performed this service for the smaller banks of the country. Now, however, member banks in need of reserves usually turn to the Federal Reserve banks for accommodation. But nonmember banks still depend upon their city correspondents for advances, and members continue to use this channel when necessity or profit dictates.

2. USES OF FUNDS

We are now ready to turn to the second question: What are the principal uses to which a bank puts its funds? Disregarding the fact that an outlay for physical equipment is necessary, these uses may conveniently be classified under the three headings: loans, investments, and reserves.

a. Loans

The item appearing on a bank statement, loans and discounts, harbors a varied collection of obligations. In normal times its total amount considerably exceeds investments and is from three to five times greater than reserves. The largest subdivision represents short-term working capital loans made to business concerns that keep their checking accounts with the bank. A rough guide applied in practice is known as the "20 per cent rule." This means that a depositing customer is entitled to borrow about five times his average deposit balance unless, for other reasons, his credit standing is impaired. These so-called "line of credit" loans are ordinarily unsecured in the sense of being protected by the pledge of specific collateral.

Another class of customer loans includes those that are protected by specific collateral. A wide variety of such collateral is found in every sizable bank. Although stocks, bonds, and titles to staple commodities are the most common forms in a commercial bank, loans may be collateralized in practice by the pledge of almost any kind of wealth. Liens on livestock, crops, or

other chattels, and mortgages on real estate frequently serve the purpose.

The remaining loans in the portfolio may be classified as non-customer loans. Included in this division are commercial paper and bank acceptances purchased in the open market, and stock exchange loans made to noncustomer brokers. In addition, some of the real-estate mortgage loans and a few other loans may be made to nondepositing borrowers. This, however, is the exception and not the rule.

b. Investments

The distinction between loans and investments is a rather arbitrary one since any advance of funds may, in a broad sense, be labeled either a loan or an investment. It does, however, serve a useful purpose. The investment item on the statement includes bonds of all types, and also stocks insofar as banks are permitted or disposed to hold them. Securities of the United States Government constitute the largest element, although large amounts of railroad, public utility, municipal, industrial, and foreign bonds are likewise held.

Since it is the usual practice of banks to meet the legitimate loan requirements of their customers first and to commit only the overflow to open-market paper and securities, the relative amount of loans and investments varies considerably in the course of the business cycle. In order to meet the increased demand for loans during the prosperity phase, the banks are usually forced to sell a part of their investments. Such a shift occurred in 1929. On the other hand, when the credit needs of business decline during a depression, the banks attempt to keep their funds employed by enlarging their investment portfolio. The year 1930 affords a good illustration of this tendency.

Taken together, loans and investments are known as the "earning assets" of a bank. The other asset items, such as fixtures, equipment, and reserves, do not yield a direct return even though they may be absolutely essential to operations. A major problem of bank management is to keep the yield of, and amount of, earning assets as large as is consistent with safety.

c. Reserves

The principal limitation upon the expansion of the proportion of earning assets to total resources is the necessity of maintaining

an adequate fund of primary reserves. For a national bank, the balance sheet items which make up this fund are cash in vault, legal reserve with the Federal Reserve bank, and checking deposits maintained with correspondent banks. In view of the fact that a commercial bank must stand ready to meet deposit withdrawals at a moment's notice, the management can ill afford to sacrifice liquidity too greatly for the sake of immediate income. The very life of the bank is at stake since failure to meet any withdrawal with acceptable funds would mean insolvency and a permanent loss of the community's confidence.

This does not mean, however, that the reserve against deposits needs to be 100 per cent. Except in a severe financial panic, not all depositors will seek to draw out their funds at the same time. Instead, the stream of inflowing deposits largely balances withdrawals. The function of reserves is to meet any probable excess of the latter over the former. In normal times, the two flows are sufficiently synchronized, so that a reserve of between 15 and 25 per cent of deposits is adequate for most banks. It should be noted, however, that requirements vary widely between banks and within the same bank at different times. The management should, therefore, devote constant study to the forces that may either obstruct the inflow or accelerate the outgo. In the United States the practice of prescribing certain reserve minima by law has been followed. The original purpose of such legal requirements was to exert some restraint upon speculatively inclined banks, but in recent years there has developed an additional aim of controlling the quantity of deposits.

II. BANKING OPERATIONS ILLUSTRATED

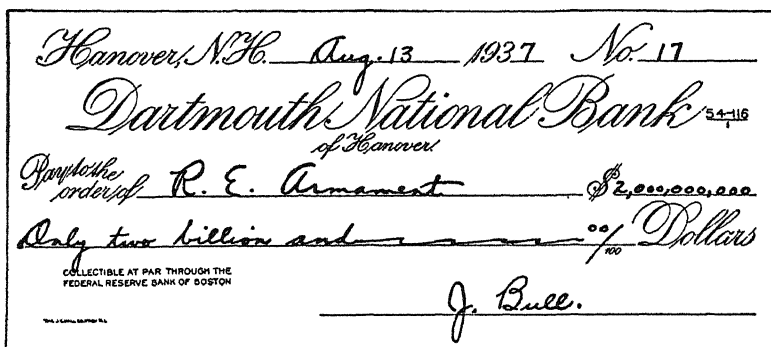
1. EFFECT ON THE BALANCE SHEET

A firmer foundation for understanding the nature of banking operations can be laid by considering each one of them in terms of the bank statement. For this reason, it is proposed to consider a series of simple illustrations of the principal banking transactions. Let us assume that a new bank, the Alpha National Bank, has just opened for business in a small city, that the 10,000 shares of capital stock (par value \$100) have been subscribed and paid for at \$120 per share, that the founders have made original deposits of \$1,500,000, and that an outlay of \$100,000 has been made for fixtures and equipment. We may

also suppose that the proper amount of stock in the Federal Reserve bank has been subscribed and that the legal reserve has been deposited with the Reserve bank.¹ The statement on the opening day, then, would appear as follows:

ALPHA NATIONAL BANK			
Resources		Liabilities	
Fixtures and equipment	\$ 100,000	Capital stock ..	\$1,000,000
Stock of Federal Reserve bank	36,000	Surplus.....	200,000
Reserve with Federal Reserve bank	150,000	Deposits.....	1,500,000
Cash items.....	2,414,000		
	<u>\$2,700,000</u>		<u>\$2,700,000</u>

Next, let us separate the components of "cash items" by depositing \$200,000 with correspondent banks and sending all cash above \$50,000 to the Federal Reserve bank. These steps would change the above statement (1) by decreasing cash \$200,000 and increasing a new asset account, Due from Banks, by the same amount; and (2) by decreasing cash by \$2,164,000 and increasing reserve with Federal Reserve bank by a like amount.



Now suppose that \$1,000,000 of new deposits are received—\$100,000 in cash, \$600,000 in checks² drawn upon local clearing-house banks, and \$300,000 in checks drawn upon out-of-town

¹ The required subscription to Federal Reserve bank stock is 6 per cent of capital and surplus of which one-half must be paid in; the basic legal reserve requirement for the Alpha National is 10 per cent of net demand deposits.

² Note the accompanying specimen of the ordinary bank check.

banks. This transaction would require the opening of two new asset accounts—Exchanges for Clearinghouse, and Federal Reserve Collection Account—which would be increased, respectively, by \$600,000 and \$300,000. Cash would also be increased by \$100,000 and deposits by \$1,000,000. By way of explanation it may be noted that practically all deposited checks drawn upon local banks are exchanged and collected through an association of local banks called the “clearing house,” while most out-of-town checks are sent to the Federal Reserve bank for collection. At this stage the revised statement of the Alpha National would be as follows:

Resources		Liabilities	
Fixtures and equipment	\$ 100,000	Capital Stock	\$1,000,000
Stock of Federal Reserve bank	36,000	Surplus	200,000
Reserve with Federal Reserve bank	2,314,000	Deposits	2,500,000
Federal Reserve collection account.	300,000		
Due from banks	200,000		
Exchanges for clearing	600,000		
Cash in vault	150,000		
	<u>\$3,700,000</u>		<u>\$3,700,000</u>

Hanover, N. H., <u>Aug 13</u> 19 <u>27</u>		Due _____
<u>Ninety days</u> after date, for value received, I promise to pay		No. <u>231</u>
to the order of THE DARTMOUTH NATIONAL BANK OF HANOVER		
<u>One thousand</u> Dollars		<u>\$1,000</u>
Payable at The Dartmouth National Bank of Hanover, N H		
Waving demand, notice and protest With interest after maturity		
Address <u>15 East 283 St.</u>	Signature <u>J. Doe</u>	
<u>Hanover, N H.</u>		

By this time many requests for loans¹ would have been made by customers. Suppose that out of those investigated, advances of \$1,000,000 (\$800,000 in discounts and \$200,000 in straight loans) are granted on a 90-day, 5 per cent basis and that the

¹ Note the accompanying specimen of a promissory note.

proceeds are credited to the borrowers' checking accounts. The balance sheet changes effected thereby would be:

Loans and discounts.	+\$1,000,000	Deposits	.....	+\$990,000
		Unearned discount.....	+	10,000

This draws attention to the technical distinction between a discount and a straight loan. If the advance takes the form of a discount, the interest is deducted immediately. In the above case, for example, the borrowers whose notes were discounted were given deposit credit of \$790,000, and the interest of \$10,000 deducted in advance was credited to a new liability account, Unearned Discount. In a sense, this account represents an offset on the liability side to an overstatement of the present value of the discounts since they are entered on the books at face value (\$800,000). In the case of the straight loan the borrower receives deposit credit for the full amount and is obliged to pay the face value plus interest at maturity. It should be obvious that the actual rate on the discount basis is slightly higher than the nominal rate.

On first view one might conclude that the bank has discovered in this process of making loans a magical device by which its *own* deposits can be expanded to over \$23,000,000—limited only by the 10 per cent legal reserve. Such a conclusion, however, would be quite erroneous even though, as we shall see later, the banks as a group can do this very thing. Referring to the example, businessmen who watch costs closely would not have borrowed the \$1,000,000 at 5 per cent interest unless they needed the funds to make payments. For this reason, the Alpha National would expect to lose all, or nearly all, of the \$990,000 within a few days. Part of the new deposits might be withdrawn in cash but most of them would be transferred by check. These checks would, for the most part, be deposited in other banks and be presented for payment through clearing and collection channels. Assuming the loss in this manner of all these loan-created deposits, the statement of the Alpha would very shortly change as follows:

Reserve with Federal	Deposits... .	-\$990,000
Reserve bank.....	-\$	990,000

And the net effect of the advances to customers would be, therefore:

Loans and discounts	+\$1,000,000	Unearned discount.	+\$ 10,000
Reserve with Federal Reserve bank.. . . .	—	990,000	

The bank still holds large excess reserves which the management would be anxious to convert into earning assets. Assume then that \$1,000,000 of bonds (United States Government, \$500,000; municipals, \$200,000; railroads, \$150,000; public utilities, \$75,000; and industrials, \$75,000) are purchased in the open market and that payment is made by a check upon the reserve balance. This transaction would involve a simple exchange of assets as follows:

U. S. Government bonds	... .	+\$ 500,000
Other bonds.	... ..	+ 500,000
Reserve with Federal Reserve bank		— 1,000,000

At this point the complete revised statement would be:

Resources		Liabilities	
Loans and discounts .	\$1,000,000	Capital stock . . .	\$1,000,000
U. S. Government bonds	500,000	Surplus	200,000
Other bonds	500,000	Unearned discount ..	10,000
Stock of Federal Reserve bank.. .	36,000	Deposits	2,500,000
Fixtures and equipment	100,000		
Reserve with Federal Reserve bank	324,000		
Federal Reserve collection account	300,000		
Due from banks ...	200,000		
Exchanges for clearing	600,000		
Cash in vault.....	150,000		
	<u>\$3,710,000</u>		<u>\$3,710,000</u>

Next, let us consider the effect of the clearing operation. Every morning a city bank takes all the checks drawn on other local banks to the clearinghouse and exchanges them for the checks, drawn upon itself, which all the other clearing banks have received. If the items taken exceed the items received, the other banks must settle the difference with acceptable funds. But if the checks received exceed those taken, the bank is obliged to pay the difference to the others. Although several methods of settlement have been used, the prevailing one at present is the transfer of reserve credit at the Federal Reserve bank.

This is a simple matter when all the banks have balances at the Reserve bank. The amount of the settlement is ordinarily only a fractional part of total clearings owing to the offsetting process. Now suppose that the Alpha National takes its local items to the clearinghouse and receives checks drawn upon itself to the amount of \$700,000. In this event, the statement changes would be:

Exchanges for clearing.	-\$600,000	Deposits.....	-\$700,000
Reserve with Federal Reserve bank.	.....		- 100,000

Had the clearinghouse balance been favorable, rather than unfavorable, the Reserve balance would have been increased.

In addition to the foregoing illustrations, it will be well to consider a series of others. Suppose that the Alpha National Bank proceeds with operations as follows:¹

1. Receives reserve credit for the collection items sent to the Federal Reserve bank.

Reserve with Federal Reserve bank	....	+\$300,000
Federal Reserve collection account	..	- 300,000

2. Pays out \$100,000 of cash to depositors who present their checks at the teller's window.

Cash in vault.	-\$100,000	Deposits	-\$100,000
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3. Sells a \$10,000 bank draft drawn upon a New York City correspondent to a customer who is remitting funds to an exacting creditor; also sells a \$1,000 draft to a noncustomer for cash (commissions disregarded).

Due from banks	..	-\$10,000	Deposits	-\$10,000
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Due from banks	..	-\$ 1,000
Cash.....	+ 1,000

4. Gives recognition to the interest that has accrued on its straight loans.

Interest accrued	..	+\$5,000	Undivided profits..	+\$5,000
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5. Enters the amount of unearned discount that has become earned.²

Unearned discount.	-\$8,000
Undivided profits..	..	+\$8,000

¹ In order to obviate repetition of transactions, no attempt is made to preserve a realistically balanced position in this final series of operations.

² In a sizable bank, entries similar to (4) and (5) are made daily. Each day another increment of interest *accrues* on the straight loans and another increment of unearned discount becomes *earned*. These interest accounts thus flow steadily into the undivided profits account.

6. Accepts repayment of a straight loan (\$10,000, 90-day, 5 per cent) which has matured. The customer pays by check.

Loans and discounts. . .	-\$10,000	Deposits	-\$10,125
Accrued interest.. .	- 125		

7. Accepts repayment of a \$20,000 discount.

Loans and discounts. . .	-\$20,000	Deposits	-\$20,000
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8 Borrows \$100,000 from the Federal Reserve bank on its own note collateralized with eligible securities. One-fourth of the proceeds is taken in cash. Discount rate 3 per cent.

Reserve with Federal		Bills payable . . .	+\$100,000
Reserve bank .	+\$75,000		
Cash in vault .	+ 25,000		

9. Purchases business machines at a cost of \$5,000. Payment is made by a cashier's check ¹

Fixtures and equipment	+\$5,000	Cashier's checks	+\$5,000
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10. Certifies a customer check for \$20,000.²

Deposits.	-\$20,000
Certified checks	+\$20,000

11. Writes off losses of \$10,000 on loans and \$15,000 on railroad bonds.

Loans and discounts.	-\$10,000	Surplus.	-\$25,000
Other bonds .	- 15,000		

12. Declares a 10 per cent dividend and carries \$20,000 to surplus.

Surplus	+\$ 20,000
Undivided profits. . .	- 120,000
Dividend payable. . .	+ 100,000

Finally, in order to bring out typical relationships among the balance sheet items, the following statement of the Alpha National

¹ A cashier's (or treasurer's) check is an order drawn upon the bank itself by the cashier directing it to pay a definite sum of money to the payee. When issued, such a check is a liability that usually returns for collection within a few days. Payments for bank supplies and equipment are frequently made by this method and customers sometimes use such checks for distant remittances.

² For certain payments the ordinary check is unacceptable because the creditor insists on definite assurance that the check is good. This assurance may be given by the bank's certification, *i.e.*, by one of the officers stamping **CERTIFIED** across the face and attesting the fact by his signature.

is presented. This statement shows its position after it has become a seasoned and established institution.

ALPHA NATIONAL BANK			
Resources		Liabilities	
Loans and discounts	\$ 7,500,000	Capital stock.....	\$ 1,000,000
U. S. Government securities.. . . .	1,100,000	Surplus.....	750,000
Other bonds	1,387,500	Undivided profits.....	200,000
Stock of Federal Reserve bank.....	52,500	Bills payable.. . . .	200,000
Accrued interest... .	15,000	Unearned discount...	70,000
Fixtures and equipment.	105,000	Certified and cashier's checks.....	30,000
Reserve with Federal Reserve bank.	1,100,000	Due to banks	200,000
Federal Reserve collection account ...	450,000	Demand deposits.. .	10,500,000
Exchanges for clearing	400,000		
Due from banks . . .	500,000		
Cash in vault. . . .	300,000		
Other assets	40,000		
	<hr/>		<hr/>
	\$12,950,000		\$12,950,000

It should be observed in particular that deposits are about six times the proprietorship equity; that loans and discounts are between two-thirds and three-fourths of deposits; that cash in vault is about 3 per cent of deposits; and that primary reserve items are about one-fourth of total earning assets. These ratios, of course, show considerable variation among banks and within the same bank at different times. But in an average sense, they may be regarded as fairly typical of a small commercial bank.

2. INCOME AND EXPENSES

Like other business enterprises, a bank makes a profit for stockholders only if total income exceeds the various operating and overhead expenses. This likeness, however, cannot profitably be developed further because of the wide difference that exists in the principal income and expense items. The accompanying table throws considerable light upon the nature of banking operations by showing the recent trends and relationships among these items. Attention is particularly called to

TABLE 8.—DISTRIBUTION OF COMMERCIAL BANK INCOME AND EXPENSE,
1927-1935*Percentages of Total Current Income*

Items	1927 %	1928 %	1929 %	1930 %	1931 %	1932 %	1933 %	1934 %	1935 %
Income									
Interest and discount on loans	74.4	68.1	72.4	71.6	68.3	64.2	63.5	57.4	55.5
Interest and dividends on investments	20.8	27.4	22.8	22.7	24.6	29.0	30.2	35.0	35.7
All other interest	1.3	1.3	1.4	1.5	1.0	0.8	0.3	0	.0
Total interest received	96.5	96.8	96.6	95.8	93.9	94.0	94.0	92.4	91.2
Rent from safe deposit vaults	..	1.4	1.2	1.3	1.5	1.6	1.8	1.7	2.0
Service charges		1	1.0	1.3	2.1	2.3	2.8	3.0	4.3
All other current income	3.5	1.7	1.2	1.6	2.5	2.1	1.4	2.9	2.5
Total current income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Expense									
Interest paid on demand deposits	19.9	15.1	15.7	15.8	15.0	10.7	4.5	0.6	0.4
Interest paid on time deposits	5.5	4.8	4.1	2.0	1.9	1.7	4.0	3.4	3.4
Interest paid on borrowed money	0.9	2.1	3.9	1.6	1.0	1.9	0.4	0	.0
Total interest payments	26.3	22.0	23.7	19.4	17.9	14.3	8.9	4.0	3.8
Salaries and wages	24.6	27.0	26.5	28.4	29.0	32.0	34.4	34.5	35.4
Occupancy and maintenance of quarters	5.3	5.7	4.8	5.4	5.8	6.3	7.0	7.3	8.1
Taxes (except on bank building)	4.4	6.0	4.3	5.1	3.2	2.6	3.0	3.5	3.8
Insurance (except on bank building)	0.9	0.8	1.0	1.0	1.1	1.5	2.0	2.1	2.4
Printing, stationery, and supplies	2.8	2.8	3.0	3.3	3.5	3.1	3.1	3.5	3.1
Telephone and telegraph	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6
Postage and express	0.9	1.1	1.0	1.2	1.2	1.8	1.7	1.7	1.8
Publicity and advertising	1.3	1.0	0.8	0.9	0.8	0.6	0.5	0.5	0.5
Furnishings, equipment, and fixtures	1.2	0.9	0.7	0.8	0.5	0.6	0.5	0.8	1.1
All other operating expenses	1.9	2.3	2.4	2.9	2.5	2.8	3.4	3.5	5.3
Total operating expenses	43.7	48.0	44.9	49.4	48.1	51.8	56.2	58.0	62.1
Total current expenses	70.0	70.0	68.6	68.8	66.0	66.1	65.1	62.0	65.9
Net current earnings	30.0	30.0	31.4	31.2	34.0	33.9	34.9	38.0	34.1
Profit and loss									
Security profits, recoveries, and other credits			+4.8	+5.6	+6.5	+5.4	+16.4	+13.6	
Losses, charge-offs, and reserves			-8.1	-13.9	-36.1	-37.1	-42.6	-37.4	
Net noncurrent deductions (-) or additions (+)	+1.1	-2	-3.3	-8.3	-29.6	-31.7	-26.2	-23.8	
Net profits (after charge-offs, etc.)	31.1	29.8	28.1	22.9	4.4	2.2	8.7	14.2	27.4
Dividends paid	19.5	19.2	17.4	21.3	21.7	16.7	13.6	16.1	18.7
Balance for undivided profits and surplus	11.5	10.6	10.7	1.6	-17.3	-14.5	-4.9	-1.9	8.7

SOURCE: This table is adapted from the annual analysis of income and expenses of member banks in Federal Reserve District 1, prepared by the Federal Reserve Bank of Boston. It is based upon the operating results of about 60 New England banks outside Boston whose business is predominantly commercial. Time deposits are only about 5 per cent of gross deposits for the typical bank of the group.

the following facts: First, the largest source of income was interest received on loans. While this item exhibited a sharp relative decline, it may be regarded mainly as a change characteristic of depression periods. In such periods the demand for loans falls off and the banks add to their holdings of investment securities. Second, the largest expense item was salaries and wages, which has grown to about one-third of total current expenses. Third, interest paid on demand deposits, which was formerly a heavy expense item, has been reduced to a negligible amount. All member banks were prohibited from making such payments (with unimportant exceptions) by the Banking Act of 1933. One of the results has been a considerable rise in the proportion of net current earnings. Last, net current earnings were largely absorbed during the depression years by heavy losses on loans and investments. The payment of dividends was possible only by dipping into accumulated surplus.

Before leaving this topic, a word of caution should be given lest the above income and expense ratios be accepted as representative of all banks in the country. Actually, considerable variation exists, depending upon the character of their business, size, location, and other factors. For example, the ratios for a large New York City bank would differ from those of a small country bank in upstate New York. Likewise, the ratios for a bank whose deposits are principally savings would vary widely from those in the table—representative as they are of medium-sized banks whose business is mainly commercial.

III. NATURE OF BANKING OPERATIONS

We should now be ready to back away a few paces and see the detail of banking operations with somewhat more perspective. In the first place, it may be observed that the banks deal almost entirely with claims upon wealth, not with tangible wealth itself; also that commercial banks are concerned principally with only a part of such claims—claims upon the liquid wealth of the community. These mostly take the form of hand-to-hand money, bank checks, promissory notes, bank acceptances, trade acceptances, foreign bills of exchange, book credits, bills of lading, and warehouse receipts. The liquid wealth underlying such claims consists of goods quite immediately approaching sale

in the market—finished goods or raw materials in storage or shipment, goods in process of production, and products sold to a buyer who has made only partial payment. The fixed wealth claims, which are usually long-term instruments, are represented by stocks, bonds, mortgages, liens, and other contracts.

In the second place, the principal banking operations have the common feature of being exchanges of these claims upon wealth. When a depositor brings hand-to-hand money to the bank, he exchanges this claim for an immediate right to legal-tender money, *i.e.*, a demand deposit. From a functional viewpoint, such deposits are also money so that the transaction is simply a conversion of one form of money into another. Again, when a loan is made the customer receives a demand claim against the bank (deposit credit) and the bank receives a future claim (promissory note) against the customer for a somewhat larger amount—principal plus interest. Similarly, purchases and sales of securities, transfers of deposits, settling clearinghouse balances, borrowing from correspondents, receiving loan repayments, buying and selling bills of exchange, and meeting cash withdrawals, all resolve themselves into simple exchanges of claims upon wealth.

IV. NATURE OF BANK CREDIT

1. DEFINITION

The concept of bank credit is a most pliable and indefinite one among both practical bankers and theorists. The term is applied by different writers to any one of the following: total loans and investments, total loans, commercial loans, total deposits, total demand deposits, and individual demand deposits. To complicate the matter further, each of the above items is likely to be further adjusted to conform with the writer's particular point of view. The concept employed in this text is based fundamentally upon the monetary function performed by banks. By the volume of bank credit is meant the contribution of the banks to the country's monetary supply. That is to say, the amount of checking accounts (adjusted) plus the amount of bank notes in circulation. So far as this country's individual banks are concerned, this actually means only the former, since bank notes are now issued only by the Federal Reserve banks.

2. METHOD OF MEASUREMENT

Next, what method can be employed to determine the amount of checking accounts (adjusted)? While only an approximation is possible, it can be made from available banking statistics with sufficient accuracy for most practical purposes. Find the total demand deposits (excluding bankers' deposits but including United States Government deposits) and add to this the amount of cashiers' checks, certified checks, and travelers' letters of credit. Then deduct the amounts of exchanges for clearing and other checks in process of collection. This deduction must be made to avoid an overstatement, since deposit credit has already been given by the collecting banks and the drawee banks have not yet charged their customers' accounts. One source of error in the above method should be mentioned. In recent years the banks have shifted an indeterminate amount of demand deposits to the time-deposit category. Although the extent of this shift has frequently been exaggerated, its existence leads to an understatement of adjusted demand deposits.

A further explanation of the logical basis of this method is required. In the first place, savings deposits are excluded because, like United States Government securities, they are one step removed from monetary supply. Before a savings deposit is spent for goods, services, or securities, it is transferred to a checking account or converted into cash. To the extent that the banks hold true savings deposits, they are merely investment intermediaries—not creators of credit money. Second, demand deposits of the United States Government are included since they represent monetary supply just as truly as do other checking accounts. Most of the Government's payments are made by checks drawn upon depositary banks. Third, bankers' deposits are excluded in order to avoid double counting. If, for example, an interior bank redeposits with the Chase National Bank of New York \$100,000 received from customers, it is clear that both deposits cannot properly be considered a part of monetary supply. Moreover, bankers' deposits are used chiefly for interbank transactions. Last, the various asset meanings of bank credit (total loans and investments, total loans, and commercial loans) are rejected because of their indefiniteness relative to monetary supply. It is obviously impossible to tell from the amounts of

these items whether they are based upon savings deposits or demand deposits; in other words, whether they represent indirect investment or credit-money creation.

The bulk of bank-credit money, as already indicated, has been created by the expansion of loans and investments of commercial banks. When a loan is granted, the proceeds are usually credited to the customer's checking account. Likewise, new investments directly or indirectly give rise to new deposits. In both of these processes the bankers are seen to be transforming the bankable assets of the community into money. In the case of a loan, the less widely known credit of the borrower, represented by his promissory note, is converted into generalized purchasing power in the form of deposits. In a sense, the bank is merely validating, or placing its guarantee upon, the borrower's credit. The same transformation process occurs with respect to bank investments insofar as they represent demand deposits.

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CHAPTER X

EARLY BANKING DEVELOPMENTS IN THE UNITED STATES

Early banking in the United States is marked more distinctly by its diversity than by any other single characteristic. In a sense the country has been a great laboratory with separate banking experiments being continuously carried on in each of the several states and by the Federal Government. But, unlike a scientific laboratory, the conditions have not been subject to control. A variety of forces have all been operating simultaneously so that the results have not always been clear, even to the well informed, and many of the plainest lessons have not been translated into actual banking reform. The upshot is that, while considerable progress has been made, much remains to be done in adapting the banking system of the United States to modern conditions. Before considering these needed reforms, however, we must become better acquainted with the existing system and the background from which it evolved.

Four periods may be distinguished in our banking development. The first extended from colonial times to about 1836, covering the life span of the two Banks of the United States. The second period, 1837-1863, was an era of speculative state banking. The third, 1863-1913, began with the establishment of the national banking system and ended with the passage of the Federal Reserve Act in 1913. The final period, since 1913, covers developments under the Federal Reserve System. This chapter deals with the two periods before the Civil War.

I. EXPERIMENTS WITH CENTRAL BANKING, 1791-1836

1. EARLY BANKS

Antedating the First Bank of the United States were four early banks that deserve mention. The most notable of these was the Bank of North America in Philadelphia, planned by Robert Morris, the Superintendent of Finance of the Revolution,

for the purpose of lending financial assistance to the Government. It was chartered by the Continental Congress in 1781, with a capital of \$400,000. While more than half the original capital was subscribed by the Government, the bank was essentially a privately operated institution. By making advances to the Government, acting as a depositary for public funds, discounting commercial paper for individuals, and issuing notes redeemable in specie, it met the most pressing financial needs of the time. Owing to some uncertainty concerning the validity of its first charter, another one was obtained from the state of Pennsylvania under which operations continued until it entered the national banking system during the Civil War. In 1929 it was merged with the Pennsylvania Company for Insurance on Lives and Granting Annuities.

The other noteworthy early banks were the Massachusetts Bank founded at Boston in 1784, the Bank of New York founded in New York City in the same year, and the Bank of Maryland established in 1790 at Baltimore. All three of these institutions were utilized as depositaries for Federal funds before the First Bank of the United States was established in 1791. The Bank of New York, which was originally sponsored by Alexander Hamilton, now holds the distinction of being the oldest bank in the country. Its name, however, was changed in 1922 to the Bank of New York and Trust Company when it was merged with the New York Life Insurance and Trust Company.

2. THE FIRST BANK OF THE UNITED STATES, 1791-1811

The bill providing for the establishment of the First Bank of the United States was passed by Congress and approved by President Washington in 1791. Its strongest advocate was Alexander Hamilton, Secretary of the Treasury, who submitted an elaborate report on the subject and successfully refuted the arguments of Jefferson, Madison, and Randolph that the bill was unconstitutional.

The Bank was chartered for a 20-year period, 1791-1811. It was located in Philadelphia, the leading financial and commercial city until about 1820.

The capital stock of \$10,000,000 was divided into 25,000 shares, each with a par value of \$400. One-fourth of each share was to be paid for in specie, the rest in United States bonds. The

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Federal Government was to subscribe to \$2,000,000 of stock, in return for which the Bank was to loan it a like amount, repayable in 10 annual installments. No subscriber except the Government was to secure more than 1,000 shares and no shareholder could vote more than 30 shares. The general control of the Bank was vested in a board of 25 directors, all of whom had to be citizens of the United States. The directors in turn were to select the president.

The act creating the Bank was modeled rather closely after the Bank of England Act of 1694. The scope of business was nearly the same and similar provisions applied to the restriction upon Government loans, the limitation of debts to capital, the redemption of notes in specie, and the assurance of private control.

Very early in its existence, the Bank began to establish branches in leading commercial centers. While the parent bank appointed the branch directors and cashiers, the branches were granted a considerable measure of local autonomy. Each branch was assigned a definite capital and was permitted to make loans, issue notes, and perform other banking functions within the limits of general policies determined from headquarters. Branches of this type were opened in Boston, New York City, Baltimore, Norfolk, Charleston, Savannah, Washington, and New Orleans.

The Bank and its branches issued bank notes, made loans, and received deposits. Since the notes were legal tender in payment of all debts to the United States, they circulated widely. The total outstanding issue, however, never exceeded \$6,000,000, partly owing to the fact that \$5 was the smallest denomination. The notes issued by a branch were not receivable by the parent bank or by the other branches. This policy can be defended only as an expedient under the prevailing unstable conditions. It was shortsighted both from the standpoint of providing a good national currency and of building up the prestige of the Bank.

Loans were made to individuals, business firms, banks, and to both the Federal and state governments. The largest borrower was the Federal Government, which at one time owed the Bank as much as \$6,200,000. The Government finally repaid the debt by selling its holdings of the Bank's stock on which a substantial profit was realized. Some of the state-chartered banks also borrowed from time to time, but information is lacking as to the

amounts involved. The largest part of total loans was made to individuals engaged in some business pursuit—importers, traders, shop-keepers, artisans, and small manufacturers. In January, 1811, loans and discounts which were largely composed of this type of loan, were about \$14,600,000. At the same time, holdings of specie were reported at \$5,000,000 and total assets at \$24,200,000.

Deposits were held for individuals, for other banks, and for the Federal Government. In 1811, the amounts of these were, respectively, \$5,900,000, \$634,000, and \$1,930,000. The Treasury kept the bulk of its balance on deposit at the Bank or its branches but also made use of a few state-chartered banks as depositaries.

The Bank also assisted the Federal Government in its foreign exchange operations. One of the powers accorded it was to deal in bills of exchange. Because of its size, prestige, and intimate relations with the Government, the Bank secured a very large part of the foreign exchange business. The Government was obliged to make remittances abroad, and the bank purchased the necessary bills. During certain periods of the year the volume of this business was large and profitable. The Bank likewise provided important services in the field of domestic exchange. Transfers of funds were made both for the Government and for private customers.

Another notable public service of the Bank was the wise conservatism of the management. Not only was the Federal credit preserved by the insistence that Treasury loans be repaid but speculative tendencies of the state-chartered banks were held in check. Although only three state banks were in existence when the Bank was established, they grew rapidly in number and importance. By 1811, there were 88 such banks with a note circulation of \$22,700,000 compared with the Bank's circulation of \$5,400,000. Many of these banks were speculative ventures, operating with little paid-in capital, and formed with the intention of issuing as many notes as possible. By following the practice of promptly returning all notes for redemption, the Bank undoubtedly forestalled disastrous overissuance.

Congress refused to recharter the Bank in 1811, in spite of the fact that its utility to the Government and to business had been unmistakably proven. It had awakened the antagonism of many

state banks by the policy of presenting their notes for immediate redemption. It was resented by some individuals because 18,000 of a total of 25,000 shares were held abroad. This meant, so it was claimed, paying tribute to foreigners who, though they could not vote, exerted a "malignant influence." Opposition to the Bank came in with the Democrats since most of them had originally disapproved on constitutional grounds. When they gained a majority in Congress, its fate was definitely sealed. It closed in March, 1811, and trustees were appointed to liquidate its affairs.¹

3. THE SECOND BANK OF THE UNITED STATES, 1816-1836

a. The Interim Period

Banking and currency conditions following 1811 were far from satisfactory. The number of state banks increased from 88 in 1811 to 246 by 1816; and the notes of these banks rose from \$23,000,000 in 1811 to \$100,000,000 by 1817. Many of these bank notes were poor or worthless. The restraining influence exerted by the First Bank of the United States was no longer present. Owing to the combined influence of this speculative overissuance of notes and the War of 1812, heavy exports of specie took place. With the exception of New England, practically all banks in the country suspended specie payments in 1814. Currency conditions were so chaotic that the Treasury kept its accounts in four different standards of value.

b. The Charter of the Second Bank

When Dallas became Secretary of the Treasury in 1814, he argued for the establishment of another United States bank on two grounds: first, it would help the embarrassed Treasury; and second, it would do much to improve the condition of the currency. His argument finally prevailed over Congress, and in 1816 President Madison signed a bill establishing the Second Bank of the United States. The charter was modeled closely after that of the First Bank. Although the capital was larger (\$35,000,000), the same proportion (one-fifth) was to be subscribed by the

¹ The above description of the First Bank is based largely on a study by J. T. Holdsworth, *The First Bank of the United States*, which is included in Vol. IV of the Publications of the National Monetary Commission, Washington.

Federal Government; and similarly, one-fourth of the private subscription was to be paid in specie, the rest in bonds of the United States. The Bank was again to be located in Philadelphia, the number of directors was the same (25), and so was the length of the charter (20 years). In both cases, furthermore, loans to the Federal and state governments were limited to small amounts, the maximum rate for all loans was fixed at 6 per cent, and the ownership of real estate was restricted to that requisite for the convenient transaction of business. Similar provisions also limited the number of shares that might be owned and voted by one person. The Second Bank was likewise granted a monopoly franchise, was permitted to establish branches in the United States,¹ and was granted similar powers of note issue. Such notes could not be issued in less than \$5 denominations or in excess of the capital stock, but they were acceptable in all payments to the Federal Government. Differences in the charters of the two Banks were mainly in unimportant details. One exception perhaps was the fact that five of the directors of the Second Bank were to be appointed by the President of the United States. Theoretically, at least, this gave the Government a voice in the management.

c. The Operations of the Second Bank

Scarcely had the Bank begun operations in 1817 before it was involved in a controversy with state banks. This controversy arose over the transfer of public deposits and the acceptance of state bank notes. The Bank was to receive the Federal deposits which at that time were kept in the state banks. Although the Secretary of the Treasury counseled moderation, the management of the Bank acted somewhat arbitrarily in asking that these funds be transferred in a comparatively short time. Inasmuch as the funds were loaned to local businessmen, it was difficult to comply with these instructions without inflicting serious hardships upon borrowers. Some banks had overextended their credit; others had extended credit to merchants for the purchase of government bonds with the understanding that the loans might be repaid over a considerable period of time.

¹ Required upon application of Congress or a state legislature to establish an office in any state in which 2,000 shares were held.

This friction in the transfer of public funds naturally brought about a conflict with the state banks regarding the acceptance of state bank notes. Specie payment on most of these notes had been suspended. The Treasury, however, continued to receive them for land payments and other public dues. The notes were then turned over to the Second Bank as part of the deposits of the Government. The Bank, having already had costly experience with such notes, refused to regard them as cash. Instead they were entered in the accounts as "special." Without any real justification, the Treasury in effect threw the burden upon the Bank.

After the state banks had transferred their public deposits to the Bank and the friction over the notes involved in the transfer had subsided, the question of the state bank notes again came to the fore. The Bank issued comparatively few notes and held a specie reserve of 33 per cent or more. In 1833, for example, its outstanding note issue was \$17,000,000 backed by a specie reserve of about \$9,000,000, while the issues of state banks amounted to \$68,000,000, supported by not more than \$11,000,000 in specie. As a result, many more state bank notes were presented to the Bank than there were notes of the Bank in possession of the state banks. This gave the Bank a certain amount of control over the latter, because it could and did present their notes for redemption in specie. As in the case of the First Bank, this practice exerted a healthy restraint upon speculative overissuance of state bank notes. But it aroused a bitter resentment, particularly in the West, where unsound banking flourished and cheap-money ideas prevailed.

Rapid progress was made by the Bank in opening its system of branches. Nineteen offices were opened in the first year (1817), and the number was subsequently increased to 25. These branches, ranging from Portsmouth, New Hampshire, to New Orleans, were well-distributed over the country. While the branches were by charter under control of the central board, a substantial amount of freedom was actually permitted the separate managements—too much in fact for the country to enjoy the full advantage of having a central bank. There was a lack of proper coordination. Some of the branches extended loans and issued notes too freely while others were unduly conservative for the best interests of their territory.

Probably the greatest opportunity for the Bank to aid the national economy was that of providing a sound currency acceptable at par in all parts of the country. The evidence seems to indicate that, after 1825, the Bank was largely successful in providing such a currency. Circulation was expanded steadily until it came to represent a significant part of the monetary supply. This was made possible by the practice of paying out the notes of the Bank in preference to state bank notes. The latter were immediately sent to the issuing banks for redemption. Since the notes of all the branches were accepted both by the parent bank and by the Federal Government, they were never depreciated. The reported circulation reached a maximum of \$23,000,000 in 1836. To this amount, however, should be added between \$5,000,000 and \$7,000,000 of small drafts drawn by the branches upon the head office. These drafts were issued specifically to meet requirements for small denominations of currency without exceeding the legal limit imposed upon notes.

While the information respecting the loans and investments of the Second Bank is very incomplete, certain facts are available. After 1823, when Nicholas Biddle became president, a sound loan policy appears to have been followed. He ordered that loans be of short maturity and for working capital purposes. He forbade loans on the security of stock or real estate. In spite of these strict regulations, loans on personal security expanded from \$22,600,000 in 1823 to \$48,900,000 in 1832. Investments in bills of exchange also grew rapidly—from \$1,900,000 in 1823 to \$19,300,000 in 1836. Other investments seem to have been confined to United States bonds, the holdings of which reached a peak of \$18,400,000 in 1825, and subsequently declined.

Unfortunately, the early loans of the Bank were woefully mismanaged under William Jones, the first president. His first error was that of permitting a large part of the capital to be paid by means of loans on the security of the Bank's own stock. In 1818, \$11,200,000 of such loans—27 per cent of total loans—were reported. The position of the Bank was thus weakened by tying up a large part of its resources in nonliquid stock notes. His second mistake was that of permitting and encouraging the branches to make liberal loans on the security of real estate. As a result of this unwise policy, the Bank later sustained heavy

losses on suspended debts, and it came into possession of a large amount of foreclosed property in the West and South.

Another costly mistake of Mr. Jones was an inadequate supervision of branch loans. While losses from this source occurred at many of the branches, the worst situation developed at Baltimore. The officers made loans to themselves in order to manipulate the Bank's stock and for other speculative purposes. As a result of such gross mismanagement, the Bank was in a precarious position when, in 1818, Langdon Cheves succeeded Jones to the presidency. During his five-year administration, Cheves adopted ultraconservative policies with the object of strengthening the position of the Bank. In this he was successful but, in some measure, at the expense of its usefulness to the country. The Bank reached the pinnacle of its public service under the direction of Nicholas Biddle.

The Second Bank held deposits for individuals, banks, and governments. On March 2, 1832, the distribution of total deposits was as follows: individuals, \$8,800,000; state banks, \$2,600,000; Federal Government, \$6,800,000; state and other governments, \$1,700,000. This may be taken as fairly typical, although it should be noted that deposits of the Federal Government were subject to wide fluctuations. In 1833, Federal deposits reached \$12,800,000, and at other times they dropped below \$3,000,000. The Bank rendered the Government a valuable depositary service. Not a dollar was lost, and transfers of Treasury funds averaged about \$28,000,000 a year. These transfers from one part of the country to another were effected without charge. In addition, it assumed the burden of collecting the state bank notes that were received by the Treasury.

The Bank also bought and sold foreign exchange and maintained balances with European banks for this purpose. This business, however, did not assume much importance until after 1826. It bought large numbers of foreign bills in the South, based on the shipment of cotton, which were discounted in the North. Because of its size and wide distribution of branches, it came to have a practical monopoly of the foreign exchange business. After 1826, profits on these operations averaged about \$120,000 a year.

The Second Bank had proved its worth despite the unfortunate early record. It had provided a sound and uniform currency.

It had been of material assistance to the Treasury, had served business through making loans and dealing in foreign exchange, and had helped the credit of the country. But it had made powerful enemies. In addition to strong opposition by the state banks, there was popular disapproval both from the cheap-money advocates and those who regarded all banks with suspicion. Worst of all, however, was President Jackson's enmity which became intense during his campaign for reelection. He definitely determined to end its existence. He vetoed a charter-renewal bill which Congress passed in 1832 and shortly afterward ordered the withdrawal of Government deposits. This was done gradually, beginning in the fall of 1833. From that point on, the management was engaged in shaping its affairs for liquidation. Most of the branches were disposed of and the assets were placed in more liquid form. The Bank did not close, however, when its national charter expired in 1836. Operations were continued for a time under a Pennsylvania charter. But the successor bank became heavily involved in the security speculation preceeding the panic of 1837, and, after suspensions in 1837 and 1838, it was finally liquidated beginning in 1841.¹

With the stabilizing influence of the Second Bank removed, the way was open for an era of state banking free from Federal interference. A wide variety of experiments was tried. In most states not only were the banking laws inadequate but their enforcement was woefully lax. Banking became discredited by the losses from widespread fraud and speculation. But there were fortunately some exceptions to this unsatisfactory situation. A few of the states applied wise regulations and were rewarded by healthy banking conditions. In the next section, the outstanding developments of this era are briefly described.

II. THE ERA OF STATE BANKING, 1837-1863

1. GROWTH OF STATE BANKS

Viewing this period as a whole, there was a remarkably rapid growth of state banks. Between 1830 and 1863, the number of

¹ The above description of the Second Bank is based largely upon R. C. H. Catterall, *The Second Bank of the United States* (Chicago, University of Chicago Press, 1903) and D. R. Dewey, *The Second United States Bank* (Publications of the National Monetary Commission, Vol. IV, Washington, 1911).

banks increased from 330 to 1,466, note circulation grew from \$61,300,000 to \$238,700,000, and individual deposits from \$55,600,000 to \$393,700,000.¹ This growth, however, followed an irregular course. In the speculative boom of the 1830's the banks played a leading role. By 1837, there were 901 institutions with circulation of \$149,200,000 and deposits of \$127,400,000—an expansion of roughly two and one-half times in only seven years. But in the trying depression that followed the panic, contraction was even sharper. By 1843, circulation stood at \$58,600,000 and deposits at \$56,200,000. However, from this point on until the Civil War almost uninterrupted expansion occurred.

A notable development of this period was the shift from bank notes to deposits as a means of payment. A seven-fold expansion of deposits occurred while notes increased about 3.8 times. Before 1855, notes were more important, but from that date on the predominance of deposits was gradually established. As would be expected, the use of the check developed first in the commercial and financial centers. Principally under the influence of New York City and Philadelphia, deposits exceeded note issues in New York and Pennsylvania after about 1830.

2. SPECULATIVE BANKING IN THE WEST AND SOUTH

a. Widespread Failures

The worst banking conditions in the country existed in the West and South—particularly in the states of Michigan, Ohio, Alabama, Georgia, Louisiana (before 1842), Maryland, and Mississippi. While conditions in most of the other states were far from satisfactory, they were at least better by comparison. A few examples will serve to convey an idea of the heavy mortality. Between 1840 and 1844, the number of banks in Ohio was reduced from 37 to 8; loans and investments dropped from \$14,916,000 to \$3,106,000. By 1856, 54 of the banks established in the state had failed. The record of Michigan was even worse. Between 1839 and 1843, the number of banks dropped from 28 to 2, and earning assets declined from \$2,969,000 to \$557,000. Still worse was the situation in Mississippi. In 1840, there were about 30 banks with loans and investments of \$51,907,000; in

¹ *Annual Report of the Secretary of the Treasury*, 1876, pp. 204-205.

1851, there was one bank in the state with earning assets of \$112,000.¹ Numerous other examples might be cited, but these should be sufficient to make clear the chaotic state of affairs.

b. Causes of Failures

The leading cause of these failures was the lack of adequate banking regulation. Charters were either granted on a political basis with little relation to banking needs or they were granted indiscriminately to almost any group that applied. This permitted the formation of many banks that were economically unjustified. It was a rather general practice to grant banking powers to railroad or canal companies in order to encourage internal improvements. Referring to this situation in Mississippi during the 1830's, Brough states:² "Mississippi was grid-ironed with imaginary railroads and beridden with railroad banks. In these enterprises there was more watered stock sold than there were crossties laid; reckless speculation brooked nothing as prosaic as the actual construction of railroads, on the successful operation of which it was supposed fabulous dividends would be declared."

Such practices were not confined to Mississippi but were common in many of the states. The following excerpt from a message of the governor of Indiana in 1853 also furnishes an interesting commentary on later conditions: "The speculator comes to Indianapolis with a bundle of bank notes in one hand and the stock in the other; in 24 hours he is on his way to some distant point in the Union to circulate what he denominates a legal currency authorized by the legislature of Indiana. He has nominally located his bank in some remote part of the state, difficult of access, where he knows no banking facilities are required, and intends that his notes shall go into the hands of persons who will have no means of demanding their redemption."³

From these quotations it is evident that banking regulations were inadequate with respect not only to the chartering of new institutions but also to the operations of existing banks. This

¹ *Ibid.*, pp. 206-231.

² Brough, *History of Banking in Mississippi* (Mississippi Historical Society Publications, Vol. III, p. 325).

³ Quoted from the *Annual Report of the Secretary of the Treasury*, 1876, p. 150.

was due partly to a deficiency in banking laws and partly to a general laxity of administration. Moreover, the whole problem of regulation was intensified by the natural speculative tendencies in a new and rapidly developing country.

Certain other banking weaknesses associated with improper regulation should also be mentioned. These apply not only to the West and South but quite generally to the whole country. In the first place, the practice of paying all or most of capital subscriptions by means of loans collateralized by the bank stock itself was almost universal. As a result, new banks commenced operations with an insufficient reserve of specie, and with a large part of their resources tied up in frozen loans to stockholders. In the second place, there were practically no restrictions upon holdings of specie as related to note issue and deposits. While in some states the requirement that a certain proportion of the capital be paid in specie was enforced, there was no legal obligation, once operations were begun, to retain a specie reserve.¹ A frequent practice in the West was to pass the same specie from bank to bank ahead of the examiners in order to make a shewing of strength. The serious abuses that followed from the over-issue of notes may be, therefore, traced to the lack of proper regulation of reserves. In most states the limitation on note issue was from one to three times paid-in capital. But in view of the nominal nature of capital, as related above, little protection was given to the currency.

Finally, restrictions on the scope of the banking business were much too liberal. Many of the early banks were formed to finance railroads, canals, or other internal improvements. They issued notes freely upon the basis of loans to, and investments in the stock of, such companies. Their other assets consisted largely of loans to stockholders on the collateral of bank stock, loans to customers upon the security of real estate, and investments in actual real estate or commodities. They held little short-term business paper, and little specie with which to redeem their notes and deposits. In fine, their demand liabilities were backed only with slow and even worthless assets. As long as their notes remained in circulation, all was well; but the moment a batch of them was presented for redemption the bubble was

¹ With the exceptions of Mississippi banks after 1840, Louisiana banks after 1842, and Boston banks after 1858.

pricked. When such operations were permitted by law, a record of wholesale bank failures should occasion no surprise.

c. Effect on the Currency

Without in the least minimizing the direct losses suffered by holders of notes of defunct banks, it is likely that the greatest loss to the whole country arose from the disordered state of the currency. Much the largest part of the currency consisted of the inconvertible notes of 1,000 or more banks, operating under the diverse conditions and charters of the several states. The remainder consisted of specie, the notes of specie-paying banks, unauthorized notes of individuals and companies, and a disturbing amount of counterfeit money. There was a strong tendency for the specie and the good notes to pass out of circulation, leaving the field for the depreciated issues. Moreover, the circulation in one city or state was largely made up of notes issued by banks located at distant points. This resulted from the systematic efforts of the banks to avoid redemption by placing their notes in circulation as far away as possible—hoping, of course, that they might never get back.

It is difficult to picture in a few words the extreme difficulties of carrying on business with such a heterogeneous currency. All of the hundreds of note issues circulated, with varying degrees of depreciation, from place to place and from day to day. In order to avoid accepting notes at more than their actual value, merchants subscribed to *Bank-note Detectors* which gave up-to-date information about current rates of depreciation and about counterfeits. Before a payment could be received the *Detector* had to be consulted; and even then, owing to the constantly changing quotations, one party to the transaction usually suffered loss. There were two reasons for the discount that applied to most of the notes in circulation. The first was a lack of adequate redemption facilities. Even the notes of specie-paying banks circulated below par at distant points, the discount corresponding to the cost of redemption.¹ In addition to this factor, the notes of nonspecie banks exhibited varying discounts depending on estimates of their soundness. For example, in 1838 the notes of banks in Mississippi, Florida, and Tennessee were quoted at a

¹ The Suffolk system in New England, which is described later in this chapter, is an exception to this statement.

discount of between 12 and 15 per cent in New York City. The discount on the same date for other states ranged from 0.5 to 10 per cent.¹ Note brokers, known as "bill shavers," developed a lucrative business in buying and selling depreciated notes. One or more of them was located in even the smaller towns.

3. THE SUFFOLK SYSTEM

Throughout this period of currency confusion in most of the states, New England enjoyed the advantages of a currency of uniform value. This was due to the now famous Suffolk system which was established and enforced by the associated banks in Boston. Before 1825, the country banks of New England held a virtual monopoly of note circulation in Boston. The reason for this lay not in the superiority of these notes, but rather in the fact that they were received by Boston banks only at a discount of from 1 to 5 per cent. Notes of the Boston banks were not, therefore, generally passed in trade but were saved for payments to the banks themselves. The discount which was applied to country-bank notes corresponded roughly with the actual costs of redemption. Now since the profits of banking in those days depended in large measure upon keeping notes in circulation, the Boston banks were gravely concerned. They were supplying only about 4 per cent of the notes in New England while their capital exceeded that of the country banks. Something had to be done, and the Suffolk system was devised as a remedy.

In 1824, the seven associated banks of Boston subscribed \$300,000 and appointed the Suffolk Bank as their agent to carry out the plan. The Suffolk offered to redeem at par the notes of all country banks that would maintain with it a specified permanent deposit (\$2,000 and up) and a sufficient additional balance for the purpose. When the notes of a bank in the system were received, its balance was charged and the notes were then held subject to the bank's order. In payment, the Suffolk received the notes of any participating New England bank at par. Considerable opposition from the country banks was encountered in the beginning. They realized that the plan meant some curtailment of their circulation as well as the added expense of larger Boston balances. But practically all the banks were forced in line by the practice of returning for specie redemption the notes

¹ *Annual Report of the Secretary of the Treasury*, 1876, p. 198.

of those that refused to maintain a reasonable balance. When the system was generally accepted, the Suffolk became a clearing-house where New England bank notes were exchanged at par. On the whole, the results of the arrangement were good. In addition to supplying New England with a currency of uniform value, a wholesome restraint was exerted upon speculative loan expansion and the overissue of notes.

4. SIGNIFICANT DEVELOPMENTS IN NEW YORK STATE

Two notable banking developments occurred in the State of New York during the period: the safety-fund system of note issue; and the free banking system with its bond-secured note issue.

a. The Safety-fund System

The safety-fund system, adopted in 1829, was the first experiment in the United States with mutual insurance of bank notes and deposits. As such, it may be regarded as a forerunner of numerous insurance schemes subsequently applied to banking by other states, and of the present Federal Deposit Insurance Corporation.

Briefly stated, the plan was as follows: Each bank was required to contribute annually a sum equal to 0.5 per cent of its paid-in capital stock to a common fund in the custody of the state comptroller. Assessments, however, were to cease temporarily whenever a bank's part of the accumulated fund amounted to 3 per cent of capital stock. The fund was to be used to guarantee the debts of all safety-fund banks. In the event of a failure, immediate payment to creditors was originally withheld until judicial determination of the deficiency of assets. But an amendment in 1837 wisely provided for immediate payment of failed-bank notes. This prevented loss to noteholders from depreciation and the freezing of deposits during the liquidation period. With a view to making the arrangement practicable by minimizing losses, the act also applied certain other regulations. A bank was prohibited from issuing notes in excess of twice its capital and making loans beyond two and one-half times capital. A new bank could not commence operations until all the capital stock was paid in. In addition, provision was made for three bank commissioners with power to investigate the affairs of the

banks. Each bank was required to make an annual report of condition to the commissioners, and severe penalties were applied for false statements or false entries by bank officers.

Actual payments to the fund were begun in 1831 and accumulated until 1837 before any losses were sustained. In that year 5 banks closed. This first test was met smoothly and without loss to creditors, and in a short time the fund was replenished. But in the period, 1840-1842, 11 failures occurred in rapid succession, and the first 3 of these exhausted the fund. In 1842, an amendment limited the insurance henceforth to notes. As a matter of fact, this was the original intent of the plan. Depositors and other bank creditors were included at the last moment without a corresponding increase in assessments. But this amendment failed to relieve the fund of its existing liabilities. The final solution was a \$900,000 bond issue by the state, secured by future contributions to the fund. This enabled the comptroller to make prompt settlements with creditors. The aggregate of contributions over the years was about \$3,100,000. The fund passed out of existence in 1866, when the last of the special bank charters expired. In addition to repaying the state in full, a small remaining balance was turned over to the state treasury.

The chief weaknesses of this early plan of mutual insurance of bank debts appear to have been: (1) inability to minimize losses by thorough bank regulation; (2) an inadequate assessment to cover probable losses; (3) the basing of assessments upon capital stock rather than upon the amount of insured liabilities; and (4) the lack of public registration of note issues in order to prevent fraud.¹

b. The Free Banking System

In less than a decade after the safety-fund system was established, sweeping changes were again made in New York banking statutes. These changes were embodied in the free banking law of April, 1838. Passage of this statute is accounted for not by opposition of the safety-fund principle, which at the time enjoyed

¹ The most complete account of the safety-fund system is found in R. E. Chaddock, *The Safety-fund Banking System in New York State, 1829-1866* (Publications of the National Monetary Commission, Vol. IV, Washington, 1911, pp. 227-388).

quite general approval, but by revolt against the shameful corruption of the special-charter system. A banking charter was granted only by a special act of the legislature, and private banking without a charter was prohibited. Charters could be secured only through political influence often based upon bribery. Bank stock was distributed by partisan commissioners as a political reward or a personal favor. Such evils as these naturally engendered public distrust in the existing system and focused attention on the need for reform.

Two outstanding reform features, both destined to play a large part in later developments, were embodied in the new law. The first opened the field of banking to any individual or association that met a few minimum conditions. In other words, charters were granted under a general bank incorporation law instead of by a special act of the legislature. This change was designed to free banking from political corruption and the abuses of monopoly. Such a public policy received wide support because it gave expression to the prevailing current philosophy of democracy and individual liberty. All the other states eventually adopted the free banking principle, and some twenty-five years later it was incorporated in the national banking system.

The second reform feature provided for a bond-secured note issue in place of the safety-fund plan. Banks might issue notes provided they first deposited a corresponding amount of eligible securities with the state comptroller. In case of a failure, the securities were to be sold by the comptroller for the benefit of noteholders. At first a rather wide range of securities was eligible, including, in addition to Federal Government and New York State bonds, the bonds of other approved states and specified types of real-estate bonds and mortgages. But later on, owing to heavy depreciation of state bonds and mortgages,¹ the eligible list was limited to the first two classes. After this change, the arrangement was successful in safeguarding noteholders. Another notable feature of the plan was the provision that the notes, registered and countersigned, should be obtained from the comptroller. This served to prevent fraud and counterfeiting by greater uniformity in appearance and higher quality of printing. The method of requiring bond security for bank

¹ The loss to noteholders of insolvent banks up to 1845 was about 39 cents on the dollar; up to 1849 the loss was 36.5 cents.

notes was copied by several other states and was subsequently made the basis of issue for national banks.

5. THE LOUISIANA SYSTEM

Louisiana was one of the states that suffered most heavily from bank failures following the panic of 1837. Between 1837 and 1843, the number of banks shrank from 47 to 28, loans declined by 65 per cent, notes and deposits by two-thirds.¹ It is not surprising, therefore, that the banking law passed in 1842 was an exceedingly stringent one. In most respects, also, it reflected a remarkable understanding of sound banking principles.

The general administration of the banking law was placed in the hands of a board composed of three men who had to be residents of the state and who were not permitted to engage in banking activities. Publicity of banking was secured by having the board examine the affairs of any of the banks not less than four times a year. Each bank was required to furnish a weekly statement and to publish a monthly statement. The board was to make an annual report to the legislature.

Certain definite restrictions were laid upon the banks. Loans were separated into two classes—those from capital, and those from deposits. The former type of loans could be made on mortgages, personal security, and other investments, while the latter was restricted to 90-day, nonrenewable loans. "Cash responsibilities" were to be backed by a specie reserve of at least one-third, with the remainder represented by short-term, non-renewable commercial paper. This was the first legal reserve requirement against deposits imposed by any of the states. Directors voting for loans when these conditions were not observed were personally liable. To prevent speculative fever, the banks were not allowed to deal in sugar, cotton, other produce, or stock. Banks were required to make specie settlements weekly and exchanges of notes daily. A constant test of solvency was provided by the requirement that no bank could pay out the notes of another. Some of these regulations may have been unnecessarily harsh, but their strict enforcement soon developed an almost impregnable degree of banking strength. In the panic of 1857, Louisiana banks kept their doors open in spite of a

¹ *Annual Report of the Secretary of the Treasury*, 1876, p. 222.

general suspension of specie payments in every other state.¹ This achievement naturally drew attention, and some of the features of the Louisiana law were incorporated in the National Bank Act.

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¹ A few scattered banks remained open in other states. The most notable of these was the State Bank of Indiana.

CHAPTER XI

THE NATIONAL BANKING SYSTEM—1863-1913

I. ORIGIN

In the field of banking, as elsewhere, substantial reform appears to be possible in the United States only under the stress of a great national emergency. Except at such times the well-organized opposition of vested interests is able to perpetuate almost intolerable conditions and to block badly needed changes. This fact is well illustrated by the three decades preceding the Civil War, often termed the "dark age" of banking in the United States. Undoubtedly these chaotic conditions would have persisted for many years more but for the Civil War and the vigorous leadership of Salmon P. Chase, Secretary of the Treasury.

In his Annual Report to Congress in 1861, Mr. Chase submitted a proposal for a national bank-note currency secured by bonds of the United States. Much of the credit for this plan should be given to Mr. O. B. Potter of New York City, who presented the scheme to Chase in August, 1861. As early as 1815, however, a uniform bank-note currency secured by Federal bonds was proposed in an article, signed "W," that appeared in the December issue of the *Analectic Magazine*.¹ But whatever the origin of the idea, its incorporation into law on February 25, 1863, was due chiefly to the unremitting efforts of Secretary Chase. He was actuated most by a desire to create a safe and uniform currency for the country. But he also saw in the proposal a means of support for the Federal bond market when the Treasury was hard pressed to finance war expenditures. Other advantages stressed were that the Treasury would benefit from dependable depositaries and fiscal agencies throughout the country and that a national banking system—supplying a national currency secured by Federal bonds—would strengthen the Union.²

¹ Finance Report, 1875, p. 194.

² See A. M. Davis, *The Origin of the National Banking System* (Publications of the National Monetary Commission, Vol. V, pp. 1-112) for the most searching treatment of the motives that led to the creation of the System.

The original act was repealed the following year and the bulk of it was re-embodied in a more comprehensive and workable law, approved June 3, 1864. Since only a small number of banks was formed under the original act, and since the revised act stood without important change for half a century, we shall be concerned only with the provisions of the later measure.

II. THE NATIONAL BANK ACT, JUNE, 1864

1. ORGANIZATION; CAPITAL

The new law established a free banking system, following the pattern set by New York State in 1838. Any five or more persons, upon meeting specified capital requirements and complying with certain routine formalities, were enabled to organize a national banking association. Provision was likewise made for state-chartered banks to become national banks, although they were not compelled to do so. Charters were granted for a period of twenty years. Capital requirements were related to the size of the city. In towns with a population not in excess of 6,000, the minimum was fixed at \$50,000;¹ in cities exceeding 6,000 but not 50,000, the minimum was set at \$100,000; in cities larger than 50,000, at \$200,000. At least one-half of the capital stock was to be paid in before a bank might begin operations; the remainder was to be paid in not more than five monthly installments. One-tenth of net profits was to be carried to surplus until the latter amounted to 20 per cent of capital stock. Moreover, depositors were further safeguarded by the so-called "double liability" feature. That is, in the event of failure, shareholders were liable for the par value of each share (\$100) in addition to their original investment.

2. BANKING POWERS

Subject to some restrictions, a national bank was permitted to engage in a wide range of banking operations. These included the issuance of notes, the receipt and transference of deposits, the making of loans and discounts, the purchase and sale of bills of exchange, and dealing in coin or bullion. In addition, of course, the usual general corporate powers were granted.

¹ The act of March 14, 1900, reduced the minimum capital to \$25,000 in towns of 3,000 or less population. But the original \$50,000 minimum was restored again by the Banking Act of 1933.

3. NATIONAL BANK NOTES

Before commencing business every national bank was required to deposit United States bonds with the United States Treasury to an amount not less than \$30,000 nor less than one-third of paid-in capital stock. In return, the association was entitled to receive from the Comptroller of the Currency circulating notes up to 90 per cent of the market or par value of the bonds, whichever was lower. No bank, however, could issue notes in excess of its capital stock, nor could the aggregate issue of all banks exceed \$300,000,000. General acceptance of the notes at a uniform value was assured by requiring that each bank arrange for redemption in lawful money in one of 17 leading cities as well as at its own counter. In addition, the notes were made receivable at par by all national banks and by the Government for all dues except duties on imports. In these provisions, designed to assure parity, the influence of the Suffolk system of New England is easily recognizable. Noteholders were safeguarded against loss by the Government's obligation to redeem the notes of failed banks in lawful money. In turn, the Government was protected by the deposited Federal bonds which were forfeited in case of failure, and which might either be canceled or sold at the Comptroller's discretion. Furthermore, if the pledged bonds should prove inadequate to reimburse the Government, the deficiency was covered by a prior lien upon all assets of the failed bank. The principle of a bond-secured currency, it will be recalled, was first applied in this country in 1838 by the State of New York.

4. LEGAL RESERVES

Definite minimum legal reserves, varying with location, were specified in the act. National banks in New York City were obliged to keep in their vaults a reserve of lawful money equal to 25 per cent of their deposits and notes in circulation. In a group of 16 other leading cities, later known as "reserve cities," the same percentage was applied but one-half of the reserve might be maintained as a deposit in an approved New York City national bank. For all other associations, subsequently called "country banks," the minimum reserve was fixed at 15 per cent, two-fifths of which was to be kept in the bank's

own vault. The remaining three-fifths might be deposited in banks located in the specified leading cities.

The fact should especially be noticed that reserve regulation was applied to deposits as well as to notes. This reflected the growing use of checks and also public recognition of the essential similarity between deposit and note liabilities. The wave of bank failures that accompanied the panic of 1857 was fresh in mind, and many of them were known to have resulted from heavy deposit withdrawals. Before the Civil War only two states, however, required reserves against deposits. Louisiana took the lead in 1842 by specifying that a reserve of one-third of all "cash responsibilities" be kept in the vault. And in 1858, Massachusetts applied a 15 per cent reserve to both notes and deposits. Only Boston banks, however, were obliged to keep the reserve in their vaults. Other Massachusetts banks could count deposits maintained with approved redemption agencies as legal reserve. Thus the reserve provisions of the National Bank Act followed the Massachusetts law in extending regulation to deposits, in permitting balances with approved banks to count as reserves, and even in the percentage applied to country banks.¹

In order to assure observance of the above reserve requirements, certain penalties were prescribed. A national bank was prohibited from making any new loans and from paying dividends while legal reserves were deficient. In addition, the Comptroller might appoint a receiver to wind up the bank's affairs if, after notice, its reserve remained deficient for thirty days.

5. LOAN AND INVESTMENT RESTRICTIONS

We have already referred to the provision of the act which required national banks to purchase Federal bonds up to at least one-third of capital stock. Apart from this, there was no regulation of investments in bonds except as to satisfactory security for Government deposits. Real-estate holdings, however, were restricted to the bank building, and to such property as might come into the bank's possessions in the process of debt collection. Mortgages upon real estate were likewise prohibited except as a means of securing debts previously contracted. There were, in

¹ See R. G. Rodkey, *Legal Reserves in American Banking* (Ann Arbor, University of Michigan Business Studies, Vol. VI, No. 5, 1934), Ch. 3.

addition, three restrictions applying to loans: first, loans to one person or firm were limited to 10 per cent of the capital stock of the bank;¹ second, loans secured by a bank's own shares, and the purchase or holding of such shares, were prohibited except in preventing loss upon previously contracted debts; and third, the rate of interest upon loans could not exceed that specified by law for state-chartered banks and, in the absence of state limitation, it could not exceed 7 per cent per annum.

6. GOVERNMENT DEPOSITARIES AND FISCAL AGENTS

The Secretary of the Treasury was authorized to designate any national bank as a depository for Federal funds and as a financial agent for the Government. Associations so designated were required to furnish satisfactory security in the form of United States bonds, or otherwise, for the safekeeping of public money and the faithful performance of agency functions. The advantage of such facilities to the Treasury, it will be recalled, was one of the arguments for the system advanced by Secretary Chase.

7. GOVERNMENT SUPERVISION

Another notable feature of the act was the extension of government supervision beyond that exercised by any of the states, with the possible exception of Louisiana. The execution of the law was to be effected by a bureau of the Treasury Department, headed by the Comptroller of the Currency. The Comptroller was to be appointed by the President, with the advice and consent of the Senate, for a term of five years. He was given a wide range of power in the administration of all provisions of the act. In order that he might have sufficient information concerning each bank, the associations were required to supply monthly and quarterly statements of condition. Furthermore, he was empowered to arrange for a thorough examination of every association as often as he deemed necessary.

The force of publicity was utilized by requiring that each bank publish a detailed quarterly statement in a local newspaper and that the Comptroller publish the aggregate quarterly statement. In addition, the Comptroller was directed to make an

¹ Bills of exchange drawn against actually existing values, and commercial paper actually owned by the person or firm were not included within the 10 per cent limit.

annual report to Congress which should include, among other things, a statement of the condition of national banks, individually and as a group.

III. BANKING DEVELOPMENTS OF THE PERIOD

While numerous minor changes were made in banking legislation during the fifty-year span before the Federal Reserve Act, there were no major alterations involving new principles. Nevertheless, it is desirable to note the more important of these changes in order to appreciate fully the larger reforms in 1913.

1. THE TAX ON STATE BANK NOTES

The progress of the national banking system during the first two years was a source of great disappointment to its sponsors since the bulk of banking capital remained under state charter. It became evident that there was an insufficient inducement offered state banks and that the act would fail of its purpose unless new measures were taken to stimulate charter conversions. These measures were embodied in the act of March 3, 1865. A tax of 10 per cent was imposed upon state bank notes paid out by any bank after July 1, 1866. Owing to the large importance of circulation at the time, this prohibitive tax was effective in forcing most of the state banks into the system. In the year following January, 1865, the number of national banks increased from 638 to 1,582, mainly because of state bank conversions.¹ At the same time, of course, national bank notes displaced the heterogeneous state bank issues, and the country came to enjoy for the first time the benefits of a currency of uniform value and appearance.

Another provision of the same act permitted a state bank with branches to enter the national system and continue to operate its branches. This inducement had little practical effect at the time, however, since there were only a few such banks.

2. CHANGES RESPECTING NATIONAL BANK NOTES

A significant reduction in the reserve requirements for national bank notes was made by the act of June 20, 1874. The notes

¹ Finance Report, 1876, pp. 271-272.

were so highly regarded that very few were being presented for payment in the redemption cities. The legal reserve restriction, therefore, appeared to be needlessly burdensome. Under the revised arrangement, the only reserve required against notes was a 5 per cent redemption fund of lawful money to be maintained with the Treasury. This fund, moreover, counted as a part of the lawful reserve against deposits. The net effect of the change, consequently, was to reduce legal reserve requirements by an amount equal to 25 per cent of the note circulation of reserve and central reserve city banks, and by 15 per cent for banks located elsewhere. National bank notes were redeemable henceforth only by the issuing bank and the United States Treasury.

The act of January 14, 1875, removed the regulations concerning apportionment of notes among the states and also abolished the limit on aggregate issue which had been raised to \$354,000,000 in 1870. The effective upper limit to circulation then became the amount of capital stock or the supply of eligible Federal bonds.

A further stimulus to note issue was provided by the act of March 14, 1900. The upper limit of issue was raised from 90 to 100 per cent of the value of the deposited bonds; and the note issue privilege was extended to the new 2 per cent Government bonds which were designed to refund outstanding issues bearing a higher premium. The combined effect of these provisions was a steady expansion of notes. Between February 13, 1900, and June 30, 1914, national bank circulation rose from \$204,900,000 to \$722,600,000.

3. RESERVE AND CENTRAL RESERVE CITIES

There was a fairly general feeling of discrimination among national banks in cities not designated as one of the seventeen "redemption cities" by the original act. These banks wished to share the privilege of holding on deposit the reserves of country banks. Moreover, some of the reserve city banks desired to be placed on a par with New York City so that they might hold reserve city bank reserves as well as those of country banks. In response to a steady stream of such pleas for special designation, Congress passed the act of March 3, 1887. The Comptroller of the Currency was authorized, upon the request of three-fourths of the banks, to add any city of 50,000 population or more

to the list of reserve cities,¹ and to designate any city of 200,000 population or more as a central reserve city. Numerous requests for a change of classification were shortly granted by the Comptroller. Chicago and St. Louis were promoted to the status of central reserve cities, and by 1913, the list of reserve cities numbered 49. Along with the privilege of competing for bankers' reserve deposits went the burden of more stringent reserve requirements. In fact, a majority of the newly created reserve city banks reaped no net advantage, and many of them found the change detrimental.

4. GROWTH OF NATIONAL BANKS

During the first three years, the national banking system grew chiefly as a result of the conversion of existing state banks. But, after this wholesale shift was completed, subsequent growth represented for the most part the opening of new banks and the expansion of those already in operation. The rapid economic development of the country required a constantly increasing volume of financial services. In 1866, there were 1,644 national banks with resources of about \$1,500,000,000. By 1900, the number had grown to 3,942, and by 1914, to 7,525. Resources on the two latter dates amounted, respectively, to \$5,400,000,000 and \$11,500,000,000.

The business of national banks during this period remained predominantly commercial in character. This was chiefly a result of legal restrictions. Two provisions of the law hindered the development of savings departments. Reserve requirements against savings deposits were prohibitively high. While a majority of the states either specified no reserve or named a lower percentage than for demand deposits, no distinction between the two classes of deposits was made in the National Bank Act. The second hindrance was the prohibition of real-estate loans which represented the largest and most profitable outlet for savings deposits. National banks were, in addition, prevented from performing trust services.

5. STATE BANKS AND TRUST COMPANIES

The above-named restrictions on national banks preserved a field of opportunity for state-chartered banks and trust com-

¹ The population limit of reserve cities was reduced to 25,000 by the act of March 3, 1903.

panies. Although the 10 per cent tax on state bank notes immediately forced the majority of them into the national system, their number increased rapidly after 1868. By 1887, they became more numerous than national banks, and by 1914, there were 19,240¹ as compared with 7,525 national institutions. National banks, however, represented on the latter date about 43 per cent of total banking resources.

This marked development of state banking may be accounted for in two ways. Reference has already been made to the more exacting restrictions upon national banking. State regulation was on the whole more liberal not only in connection with loans, reserves, and trust services, but in other respects as well. Size in particular was an important factor. Many states permitted a minimum capital of \$10,000; some states as little as \$5,000. In 1909, over three-fourths of the state banks were capitalized at less than \$50,000, and one-half had capital of less than \$25,000.² The other main reason for state bank growth is to be found in the declining importance of note issue. The use of checking accounts gained public favor so rapidly that successful bank operation no

TABLE 9.—CLASSIFICATION OF BANKS IN THE UNITED STATES AS OF JUNE 30, 1914

Institutions	Number	Resources (000,000 omitted)	Indi- vidual demand deposits* (000,000 omitted)	Time and savings deposits (000,000 omitted)
National banks	7,525	\$11,482.2	\$ 5,581.5	\$1,390.9
State banks	14,512	4,353.7	2,002.5	1,178.8
Loan and trust companies. . .	1,564	5,489.5	2,585.3	1,303.0
Private banks	1,064	196.5	93.4	51.3
Mutual savings banks	634	4,253.0	0.4	3,915.1
Stock savings banks	1,466	1,196.5	181.2	835.4
Total	26,765	\$26,971.4	\$10,444.2	\$8,674.6

SOURCE: *Annual Report of the Comptroller of the Currency*, 1914.

* Includes demand certificates of deposit

¹ Including private banks and mutual savings banks.

² George E. Barnett, *State Banks and Trust Companies* (Publications of the National Monetary Commission, Vol. VII, Washington, 1911), p. 254.

longer depended upon note issue. In fact, after about 1880, the right of issue provided little or no profit.

A fairly distinct division of function thus existed between state and national banks. In general, their positions were complementary rather than competitive. The state banks and trust companies supplied the fiduciary services and most of the savings facilities while the national banks were primarily concerned with commercial operations. This difference, however, became less sharp in the last decade of the period. Furthermore, the typical state bank was a smaller institution. The accompanying table shows a classification of banking just before establishment of the Federal Reserve System.

IV. WEAKNESSES OF THE NATIONAL BANKING SYSTEM

1. FINANCIAL CRISES OF 1873, 1893, AND 1907

While the national banking system represented a long stride forward, particularly in furnishing a currency of uniform value, it proved in practice to possess a number of serious defects. On three occasions, 1873, 1893, and 1907, suspension of cash payments by the banks became general throughout the country, and business was brought virtually to a standstill. Suspension was also narrowly escaped in the financial stringencies of 1884 and 1890. These three severe disturbances were required, however, before the people became thoroughly awakened to the need for banking reform. In both 1873 and 1893, the real defects of the system were obscured by other disturbing conditions. The depreciated state of the currency in the former year and Treasury silver purchases before 1893 drew the fire of critics. But fortunately in 1907, there was nothing of the sort to shield the banking system from receiving a fair share of blame. It had at last become generally recognized that chronic defects in the banking and monetary arrangements of the country were chiefly responsible for all three disastrous breakdowns.

2. DEFECTIVE REGULATION OF BANK RESERVES

Probably the most fatal of all weaknesses of the system was the lack of a store of surplus reserves which could effectively be drawn upon in emergencies. This was partly owing to the law and partly to the prevailing practice of expanding loans and investments in normal times until all legal reserves were fully

utilized. Under the law, it will be recalled, the country banks were permitted to maintain three-fifths of their reserve on deposit in reserve or central reserve cities. Reserve city banks could deposit one-half their reserves in central reserve cities, while the latter had to keep their entire legal reserve in the form of vault cash.

This system of redepositing (pyramiding) reserves naturally led to a considerable concentration with reserve agents in the cities, and particularly in a few large New York City banks. For example, before the crisis of 1873, seven New York City banks held about half of all bankers' reserve balances. And by 1907 about three-fourths of all bankers' deposits was in the hands of six New York City banks.¹

There was nothing wrong with such concentration of reserves per se. In fact, if fault is to be found on that score, there was actually too little rather than too much concentration. The fault lay rather in the fact that the reserve agents were unable or unwilling to assume their heavy responsibilities. For this there were several reasons.

Competition among the city banks led to the payment of interest upon reserve balances. Ordinarily the rate was 2 per cent but at times it rose as high as 4 per cent. This unwise practice almost precluded the possibility of holding excess reserves. That is, in order to show profits the city banks were forced to expand their earning assets up to the legal reserve limit. In the ten years preceding the 1907 crisis, for example, the reserve ratio of New York City banks ranged between 24.2 and 27.8 per cent.² The bulk of these bankers' balances was loaned on call to brokers for the purpose of financing stock market speculation. Ordinarily such loans were an ideal commitment from the standpoint of the banks. They afforded a reasonable yield, and cash could be realized on short notice to meet withdrawals by correspondents. This was possible, however, only because withdrawals from one bank were likely to be balanced by the receipts of others. A broker could repay his loan without liquidating collateral securities simply by shifting it to another bank.

¹ O. M. W. Sprague, *History of Crises under the National Banking System* (Publications of National Monetary Commission, Vol. V, Washington, 1911), p. 232.

² *Ibid.*, p. 221.

But in periods of great strain the system broke down entirely. The interior banks all tried to recall reserve deposits at once with the result that all New York City banks tried to call brokers' loans at the same time. This was, of course, an utter impossibility. When the brokers found that there were no banks willing to take over their loans, the only alternative was to sell the collateral securities. This move, however, was equally impossible when all wanted to sell and none wanted to buy. The actual result in each of the major crises was a complete tie-up before any appreciable contraction of brokers' loans occurred. Moreover, in both 1907 and 1893, the New York City banks suspended cash payments before drawing materially upon their reserves.¹

This disposition of the banks "to throw in the sponge" before actually using their reserve draws attention to another weakness, *viz.*, the rigidity of legal-reserve requirements. The National Bank Act prohibited a bank with deficient reserves from expanding loans and from paying dividends. The Comptroller of the Currency was also given discretionary power to liquidate a bank whose reserve remained deficient for thirty days after notice. There was actually little rigidity in these provisions with respect to paying out reserves in a crisis. At such a period the Comptroller could safely be depended upon not to enforce the liquidation penalty upon any solvent bank. Yet the failure of the banks to use their reserve is evidence that the threat of liquidation was too severe.² With respect to loan expansion, however, the legal requirement was definitely rigid. It forced an aggravating policy of loan contraction upon the banks in periods of crisis when instead they should have eased the tension by meeting all legitimate requests for credit.

There were, in addition, certain other reserve defects which can only be mentioned at this point. In the first place, location was not a proper basis for fixing requirements. Second, there was no distinction recognized among time deposits, individual demand deposits, and bankers' deposits. Third, there was no

¹ In neither case did the reserve ratios fall below 20 per cent. In 1873, however, a more courageous effort was made to stave off suspension. In October, 1873, the ratio of legal tender to deposits fell below 4 per cent. *Ibid.*, p. 55.

² A more important reason why reserves were not used was the fact that they were not equalized among the banks. The reserves of some banks became nearly exhausted while others held an excess.

effective method of equalizing the cash reserves of all the banks so that full utilization could be realized in emergencies. Fourth, there was lacking any centralized control of reserves as a means of regulating the volume of credit. And finally, stated reserves were fictitious to a large extent. This was a consequence both of the pyramiding process and the indefensible practice of including in legal reserves the huge volume of uncollected checks.

3. CURRENCY INELASTICITY

While the national bank notes provided a safe currency which circulated at par with the monetary standard, they lacked the desirable attribute of elasticity. Indeed, instead of expanding and contracting along with changing hand-to-hand money needs, they actually showed a tendency at times to move in the opposite direction. This defect was all the more serious because the other kinds of hand-to-hand money were also inflexible. The greenbacks, silver certificates, and silver coin were fixed in amount by law; and the stock of gold and gold certificates depended mainly upon international trade and capital movements.

The factors that largely governed the aggregate issue of national bank notes were the price and available supply of United States bonds required as security. Notes tended to expand when declining Government bond prices widened the profit margin on such issues. Once issued, they were very likely to remain in circulation. Their retirement took place only when forced by reduction of the Federal debt or when the price of United States bonds rose so high that banks saw fit to capture the profits from appreciation. Now since neither of the above factors has shown a dependable relation to currency needs, no one could reasonably expect the notes to be responsive to such needs. But even so, it is enlightening to see how their actual volume squared with seasonal and cyclical money requirements.

From a low point in the summer, hand-to-hand money demand rises to a peak in December. A sharp drop occurs during January and February followed by a spring rise and a subsequent decline in the summer. These fluctuations are principally associated with pay-roll and retail-trade volumes. The national bank notes showed no response to them with the exception that there was some tendency to bring out permanent issues in the

fall. This is accounted for mainly by the time-consuming process of getting new issues, together with certain restrictions on retirement. As a consequence, the fall was typically a period of financial stringency with high money rates in New York City and other financial centers. This followed from the fact that bank reserves of lawful money were drawn into circulation so that reserve ratios approached or dipped below the legal minimum. For precisely opposite reasons, the summer was usually a season of excess bank reserves and unwarrantedly low money rates.

In the course of the cyclical swings of business the notes showed a definite bias in the wrong direction, that is, to contract as money demands rose and to expand as such demands subsided. This resulted from the natural tendency to retire the Federal debt in prosperous years when revenues exceeded expenditures and to issue bonds in lean years to cover Treasury deficits. The period, 1885-1892, furnishes an illustration of this bias at its worst. These years witnessed a rapid recovery from the depression of 1884-1885 followed by sustained prosperity and expansion. Exchanges of checks at clearinghouses rose from \$38,000,000,000 in 1885 to \$61,000,000,000 in 1892. But national bank notes, in a contrary mood, declined from \$315,000,000 to \$172,000,000 between the same dates. Thus, while check transactions expanded 60 per cent, notes contracted 45 per cent. The explanation lies in the use of surplus revenues to retire the Federal debt which was reduced from \$1,246,500,000 in 1885 to \$649,600,000 in 1892. Of course, not all of these bonds were available as security for notes. The banks were required to use them as security for Treasury deposits which, incidentally, were larger during a period of surplus revenues and thus tended further to limit the available bond supply. In addition, private and institutional investors held a considerable amount, a part of which was irretrievably tied up in trust funds, or otherwise, where investment in Government securities was specified. Moreover, the price of the bonds rose so high as a result of Treasury bids in the market that many banks took the profit on their bonds and retired their notes.¹

To carry the illustration on into the succeeding depression of 1893-1894, we find that national bank notes expanded to \$209,-

¹ Treasury 4s of 1907 sold as high as 130 in September, 1888.

000,000 in the face of business stagnation. This was but natural with the drop in bond prices as Treasury purchases ceased and with the floating supply of bonds enlarged because of the Treasury deficit.

One further example may well be cited from the panic of 1907. The height of the crisis came in late October. While the notes, through heroic efforts, expanded about \$80,000,000 during November and December, the bulk of this did not get into circulation until the need was over. Then, when the hoarded money came back to the banks during the first quarter of 1908, the amount of national bank notes actually increased. They thus displaced lawful money in circulation which piled up as excess bank reserves.¹

While examples might be multiplied, those given above should be sufficient to demonstrate the complete failure of the national bank note to provide one of the essential features of a good monetary system—an elastic hand-to-hand currency.

4. DOMESTIC TRANSFER OF FUNDS

The cumbersome machinery by which funds were transferred from one part of the country to another constituted a third serious defect of the old banking system. Most of these difficulties arose from the fact that banks quite generally refused to remit at par for checks drawn upon them and presented for collection by mail. For example, if a New York City bank came into possession of a \$100 check drawn upon a western bank, between \$99.50 and \$99.90 might be collected. The deduction from face value by the drawee bank was known as an "exchange" charge. This practice had its origin in the early days when distant payments were made either by drafts on city banks or by currency shipments. Such drafts sold at a premium in local funds and were a substantial source of revenue for interior banks. But with the rapid spread of checking accounts, the bank draft was largely superseded by the personal check. In the main, the practice of deducting exchange represented an attempt to rebuild an ebbing source of profits. The incidence of the charge was naturally, and often unjustly, upon the banks and bank customers of least bargaining power.

¹ See A. D. Noyes, *History of the National Bank Currency* (Publications of the National Monetary Commission, Vol. V, Washington, 1911, pp. 18-19).

Moreover, as a consequence of the practice, a network of reciprocal agreements, designed to avoid the charge, grew up among correspondent banks. Thus, a Kansas City bank might make an arrangement with a Chicago bank whereby the former would collect and remit at par to Chicago for all checks drawn on banks located in the vicinity of Kansas City, and the Chicago bank would collect and remit at par to Kansas City for all checks drawn on banks located in the Chicago area. In this way exchange charges were partially eliminated.

This, however, led to circuitous routing of checks. A check might travel a long distance instead of being sent directly to the bank on which it was drawn. Cannon¹ cites the case of a check drawn on a bank located in Sag Harbor, New York, and deposited in a bank in Hoboken, New Jersey. The distance between the two places is about 100 miles. The check, as a matter of fact, traveled about 1,500 miles, and was in the mail for eleven days. This journey was caused by the desire to avoid exchange charges.

While the above illustration is extreme, it points to a situation that prevailed in lesser degree over the entire country. Checks in transit, known as the "float," were perhaps two or three times larger than necessary with a proportionate delay in collection. Such delay was costly not only in interest loss but also in the deferred discovery of no-account items. Other consequences were the greatly enlarged volume of interbank deposits for collection purposes, and a large fictitious element in legal reserves since checks in process of collection could be counted as reserve as soon as they were put in the mail.

Still another costly phase of domestic exchange difficulties was the unduly large shipment of currency. From August to the end of the year, specie and other currency were usually shipped from metropolitan centers to the interior, and a return flow set in after the turn of the year. Minor crisscross movements were constantly underway, and extraordinary shipments occurred from time to time. The expense involved included express, insurance, boxing, and interest. Much of this would have been unnecessary with an efficient banking system.

¹ James G. Cannon, *Clearing Houses* (New York, D. Appleton-Century Company, Inc., 1900), pp. 74-78. For a detailed account of the subject of clearing and collection of checks, see W. E. Spahr, *The Clearing and Collection of Checks* (New York, Bankers Publishing Company, 1926), 597 pp.

5. FOREIGN EXCHANGE DIFFICULTIES

Under the old banking regime, national banks were not allowed to establish branches abroad, nor were they permitted by law to accept drafts originating from foreign trade. The result of this provincial system was to handicap the foreign trade of the United States and to make it necessary for American businessmen to pay additional fees to foreign bankers. As the following examples show, British bankers were the chief beneficiaries.

The inability of the American banks to accept time drafts drawn upon them led these banks to arrange for this work to be done by London banks. The importer received a commercial letter of credit which gave the terms of the credit. The exporter of coffee in Rio de Janeiro, for instance, would then draw on a London bank, attach the necessary documents to the draft, sell it to his bank, and be out of the transaction. The bank in Rio would send the draft to the London bank, which, after detaching the documents, would write "accepted" on the face of the instrument. The documents were then sent to the New York bank, which would deliver them to the importer against trust receipts. About twelve days before the acceptance fell due in London, the importer would put the New York bank in possession of sufficient sterling exchange to meet the acceptance. A similar procedure was generally followed in financing imports from the Orient, Asia, Africa, and Europe.

The defects of this method of financing foreign trade are obvious. First, the importer was obliged to pay the New York bank a commission and also to pay a commission, either directly or indirectly, to the London bank. London's financial supremacy was due in part to the financing of our foreign trade. Second, the American importer faced the risk of a fluctuating sterling exchange rate. For instance, if sterling rose from \$4.84 to \$4.88 between the date of opening a credit and payment of the bank, \$400 was added to the cost of a bill of goods costing £10,000.

This practice also worked a hardship upon our export trade. There were very few bills which could be bought abroad to pay American exporters for goods shipped, because time drafts could not be drawn by foreign exporters upon American banks. Under such circumstances, the American exporter could not very well draw in dollars. Our exports did not create a supply of

dollar exchange which could be purchased by foreigners to pay American exporters. The American exporter might conceivably draw against the importers in local currencies, but many of these were fluctuating and the risk was great. He generally drew his drafts in sterling while his British competitor was taking no such risk. If the American exporters calculated on too low a sterling rate, they got the business but lost when converting sterling into dollars; if they calculated on too high a sterling rate, their prices were unfavorable as compared with those of their British competitors and they lost the business. There was an added risk laid upon exporting.

A further unhappy consequence of the inability of national banks to accept time drafts was the absence of an open discount market in New York City comparable to that of London. Such a market is highly desirable in that it contributes substantially to bank liquidity and the mobility of funds. The large London banks were able to adjust their reserve position at a moment's notice. That is, by the sale of bankers' bills in the discount market they could increase their reserve ratio, and by the purchase of bills they could reduce the ratio. In the United States, banks were compelled to rely chiefly upon the call (security) loan market which was far less satisfactory for the purpose.

6. CREDIT CONTROL

In all other commercially important countries there was a central bank that exerted a measure of control over the domestic-credit situation and international gold movements. This control was enforced principally by changes in the discount rate at which the central bank would buy bills in the money market or lend reserves to the commercial banks. To some extent also the device of buying and selling securities, which released or withdrew bank reserves from the market, was utilized as well as other more direct methods of control. By raising the central bank discount rate and forcing the banks to borrow at the higher rate, a check was imposed upon domestic credit expansion, and gold reserves were protected and attracted from other countries. By lowering the central bank rate, credit expansion and gold exports were encouraged. Unfortunately, there was no agency to perform these functions in the United States; and as a result

our financial system was peculiarly vulnerable to any unusual disturbance.

An urgent need for money market control was also evident in connection with the operations of the United States Treasury. After the panic of 1837, the government ceased to keep its funds in state banks. The independent treasury system was established in 1846, and Treasury funds were kept in, and disbursed from, subtreasuries located in convenient places. Beginning in 1865, the Treasury divided its funds between approved national banks and the subtreasuries, the proportion being determined by the Secretary of the Treasury. In practice, this arrangement produced undesirable disturbances in the money market often marked by sharp rate fluctuations. When tax receipts poured in and exceeded expenditures, reserve cash was withdrawn from the market. This usually led to sharply higher rates. On the other hand, when expenditures exceeded receipts, reserve money was released accompanied by unwarranted ease in the money market. Similar effects were produced whenever the Secretary of the Treasury decided to shift funds deposited with the banks to the subtreasuries, or from the latter to the banks. Moreover, since the Secretary was rarely well-informed concerning Treasury relations to the money market, this power was frequently used with unfortunate effects.

The obvious need was for a central bank to perform fiscal functions for the Government and to coordinate Treasury operations with the broader problems of credit and money-market control.

7. OTHER NEEDED REFORMS

While the weaknesses discussed above were largely corrected by the Federal Reserve Act, there were two other serious defects that remained and persist even today. These were the dual-charter system and the prohibition of branch banking.

Bank charters were granted by each of the 48 states as well as by the Federal Government. There were 49 sets of banking laws and 49 separate administrations of these varying laws. This led not only to a chaotic lack of uniformity but also to an insidious rivalry among the various jealous jurisdictions to build up or maintain their systems. There developed what Comptroller Pole aptly termed a "competition in laxity" by which

progressive concessions were made both in banking law and the administration of banking law. One definite condition to an efficient banking system in the United States is one set of banking laws administered under Federal authority. Banking, like the money that it creates, transcends state boundaries.

The second reform, branch banking, is a somewhat more controversial question, and discussion of the pros and cons must be deferred. Suffice it to say here that this form of organization, owing principally to its greater strength and adaptability to control, has been adopted in every other nation of commercial importance.

V. THE MOVEMENT FOR REFORM

Before entering upon a description of the Federal Reserve System, brief consideration must be given to two banking reform bills which occupy an important position in the historical background. These were the Aldrich-Vreeland Act and the Aldrich or National Monetary Commission bill.

1. THE ALDRICH-VREELAND ACT

With public opinion aroused to the need for fundamental banking reform by the recurrence of another money panic in 1907, the politicians perceived that they were obliged to take immediate action. Their response was the Aldrich-Vreeland Act, approved May 30, 1908. This was a stop-gap measure, designed to tide over the period until a more comprehensive bill could be prepared. Its provisions were originally limited to five years but were subsequently extended to June 30, 1915, in order to take care of the emergency created by the outbreak of the World War.

The provisions of the act were aimed to correct the most widely recognized—although not the most fundamental—weakness of the old system, the inelastic currency. Under certain restrictions, national banks were enabled to secure additional circulating notes from the Comptroller of the Currency on the security of assets other than United States bonds. If application were made through a national currency association (a voluntary association of not fewer than ten banks with aggregate capital and surplus of at least \$5,000,000), the collateral might consist of any approved securities, including two-name commercial paper. The notes,

however, could be issued only up to 75 per cent of the market value of the collateral except that if the collateral consisted of state or municipal bonds the limit was 90 per cent. A national bank might also apply directly to the Comptroller for these notes, but in that event the pledged securities were to be state or municipal bonds. In order to assure contraction when the emergency passed, the notes were subjected to a graduated tax which began at 5 per cent annually for the first month and mounted to a flat 10 per cent. During the first five years, there was no occasion to use these notes, but nearly \$400,000,000 were issued in the emergency created by the outbreak of war in 1914. Under the pressure of the graduated tax, this currency was rapidly retired after October, with the passing of the crisis and the availability of the new Federal Reserve notes.

More important than the note-issue provisions of this act, was the creation of the National Monetary Commission, consisting of eighteen members chosen equally from the two Houses of Congress. This commission was directed "to inquire into and report to Congress at the earliest date practicable, what changes are necessary or desirable in the monetary system of the United States or in the laws relating to banking and currency." Under this mandate the commission enlisted the aid of a staff of experts, drawn from academic and practical banking circles, who made the most comprehensive study of banking that has ever been attempted. Some forty volumes were published covering the banking systems of all leading countries in addition to an exhaustive analysis of the financial system of the United States. With these studies as a basis, the Commission prepared a definite bill which embodied its proposal for broad reform of the banking system. This bill was reported to Congress in January, 1912, and was known as the Aldrich Plan after Senator Nelson W. Aldrich, who was chairman of the Commission.

2. THE ALDRICH PLAN

In a very real sense, the Aldrich Plan may be regarded as the predecessor of the Federal Reserve System. Most of its provisions, it is true, had been suggested in some one of the many reform measures that appeared after the panic of 1907. But the Aldrich Plan sifted these incomplete proposals, and offered a

comprehensive reform program which struck at the heart of the old system's worst defects. It recognized that the greatest need of all was for a proper organization and administration of bank reserves.

Provision was made for a central bank, called the National Reserve Association, with its head office in Washington, D. C., and with a branch in each of fifteen districts into which the country was divided. The capital stock of the association was to be voluntarily subscribed by national banks, state banks, and trust companies which met certain minimum standards. The subscribing banks in each district were to be grouped into local associations of not fewer than ten banks with aggregate capital and surplus of at least \$5,000,000. Each of these local associations was to be a body corporate with a board of directors elected by its members. The boards of the local associations in each district elected the directorate of the district branch; and in turn, the branch directorates elected 39 of the 46 members of the central governing board. The remaining 7 were to be *ex officio* members, and consisted of the governor of the association, two deputy governors, the Comptroller of the Currency, and the Secretaries of the Treasury, Commerce and Labor, and Agriculture. The governor was to be appointed by the President of the United States, but from a list of three or more nominees of the central board. Control thus emanated from the individual banks acting through their local associations, and the balance of power rested with the larger banks. Contacts between the association and its branches were to be mainly with the local associations, not with individual member banks.

Power to perform the established functions of European central banks was conferred upon the association. Members might maintain their legal reserves as a deposit balance at their district branch. Eligible commercial paper might be rediscounted through the local associations at a rate set by the central board. The association was empowered to issue its own notes backed by a 50 per cent reserve of gold or lawful money, and by eligible commercial paper. It could deal in the open market in gold coin or bullion, foreign and domestic bills of exchange, United States securities, and obligations of state or foreign governments maturing within one year. The association was to be the principal fiscal agent of the United States. All general funds of the

Treasury were to be deposited with it. In addition, the association might maintain deposits in foreign banks and establish agencies in foreign countries.

National banks were also granted wider powers. They were permitted to make real-estate loans under certain restrictions and to accept time drafts drawn upon them arising out of commercial transactions. There was to be, however, no further issue of national bank notes, and provision was made for the retirement of those outstanding.

The Aldrich bill was immediately introduced into both Houses of Congress and referred to the proper committees. But there it ended. Public opinion was suspicious of any scheme that smacked of centralization and big-banker control. Moreover, the political scene had shifted. Senator Aldrich had lost his control of the Senate. He was in public disfavor because of the protective-tariff measure which bore his name, and his close association with Wall Street interests. In addition, the Democrats had attained a majority in the House. For these and perhaps other reasons, actual reform legislation was deferred until the Democrats under President Wilson came into power in 1913.

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CHAPTER XII

THE FEDERAL RESERVE SYSTEM: ORGANIZATION

The establishment of the Federal Reserve System in 1914 marked a new epoch in the development of banking in the United States. For a half-century the old national banking system had survived with only a few minor changes. But, with the recurrence of a financial breakdown in 1907, its weaknesses became generally recognized. There followed a strong movement for banking reform which, after a hard-fought struggle, culminated in the passage of the Federal Reserve Act in 1913.

Before entering upon a description of the new system, it is first necessary to provide the proper setting by giving brief consideration to central banking development in general.

I. CENTRAL BANKING DEVELOPMENT

1. EARLY IDEAS

A pressing need for central banking services arises as soon as a nation reaches an advanced stage of commercial and industrial development. In fact, without the support of a modern monetary system economic progress could never have emerged from a primitive stage. Every important country, therefore, has been forced to make provision in one way or another for the performance of what are now generally recognized as central banking functions. These include guardianship of the ultimate banking reserves, maintenance of liquidity through readiness to convert sound commercial bank assets into reserve money, appropriate regulation of the monetary supply (including credit), note issuance, provision of efficient facilities for the clearing and collection of checks, performance of fiscal-agency services for the government, and the exercise of general guidance and leadership of the money market. In most countries the performance of these functions has been placed in the hands of a central bank closely associated with the state. A wide difference, however, has existed in the relationship between the bank and the state,

ranging from a position of almost complete independence in normal times to that of a mere bureau of the treasury department.

While a few central banks trace their origin to an earlier period, the conception of central banking in the modern sense originated in Great Britain with Adam Smith, David Ricardo, and other members of the early classical school of economists. Their influence is evident in the report of the Bullion Committee in 1810, and again in the testimony of the Governor of the Bank of England, Horsley Palmer, before the Parliamentary Committee of 1832. Governor Palmer showed a remarkably clear understanding of the relation of the bank's discount rate to prices, foreign exchange rates, and gold movements; and his testimony is recognized as a distinct contribution to central banking theory. Since this early pronouncement, much has been learned from a century of accumulated experience regarding both technique of operation and underlying theory. Yet, as will presently be shown, the problems of central banking policy are so involved and so complex that they remain today in an uncertain and controversial state.

2. FOREIGN CENTRAL BANKS

The Bank of England, established in 1694, has always occupied the premier position among central banks. In its capacity as regulator of the great London money market, its policies have exerted a world-wide, and usually dominant, influence since the middle of the nineteenth century.

The two other central banks of greatest historical importance are the Bank of France and the Reichsbank of Germany. The former was founded by Napoleon Bonaparte in 1800, chiefly for the purpose of providing, through note issue, a uniform and stable currency. The Reichsbank traces its origin back to 1765 when Frederick the Great founded the Koenigliche Bank in Berlin as a purely State institution. Subsequently, in 1846, this bank was converted into the Preussische Bank which, in turn, became the Reichsbank in 1875.

Other early central banks which deserve mention include the Risksbank of Sweden, established 1668—although not truly a central bank until 1897; the Netherlands Bank, founded in 1814; the Norges Bank of Norway (1817); the National Bank of Copenhagen (1818); the National Bank of Belgium (1850); the

State Bank of Russia (1860); the Bank of Japan (1883); and the Bank of Italy (1893).

A phenomenal growth in the number of central banks has occurred since the World War. Most of the newly constructed monetary systems, following the advice of the International Financial Conference at Brussels in 1920, were built around a central bank. A number of these new banks were established, and others were reconstructed, under the direction of the League of Nations. More recently the world depression since 1930 has provided the occasion for material changes in many central banks, and also the impetus to found several new ones. The following list of additions to the family of central banks since the war, while not entirely complete, will aid in visualizing the extent of the movement: South African Reserve Bank (1920), Central Reserve Bank of Peru (1922), Bank of Lithuania (1922), Bank of Latvia (1922), Austrian National Bank (1922), Bank of the Republic of Colombia (1923), Bank of Danzig (1923), Bank of Poland (1924), National Bank of Hungary (1924), Central Bank of Guatemala (1925), National Bank of Czechoslovakia (1925), Central Bank of Chile (1925), Bank of Mexico (1925), National Bank of Albania (1925), Central Bank of Ecuador (1927), National Bank of Bulgaria (1927),¹ Bank of Estonia (1927),¹ Central Bank of Bolivia (1929),² Commonwealth Bank of Australia (1931),² Reserve Bank of New Zealand (1933), Central Reserve Bank of El Salvador (1934), Central Bank of the Argentine Republic (1935), Bank of Canada (1935).

To this list should be added the Bank for International Settlements at Basle, Switzerland, established by leading central banks in 1930 chiefly to facilitate reparations payments. Although its functions have been limited, the B.I.S. stands in the key position of a central bank of central banks.

3. CENTRAL BANKING IN THE UNITED STATES: ORIGINS

a. The First and Second Banks of the United States

With so much emphasis placed upon the fact that the Federal Reserve System ushered in a new regime of central banking in the United States, it is often forgotten that a central bank played an

¹ Completely reorganized under auspices of League of Nations.

² Central banking powers materially extended.

important role in the nation's finances during the greater part of the first half century of the country's existence. Under the able direction of the first Secretary of the Treasury, Alexander Hamilton, the First Bank of the United States was established in 1791. It was modeled closely after the Bank of England which was the only important institution of the kind in existence at the time.

The First Bank performed the public functions of holding the funds of the Treasury, loaning money to the Government, aiding in the sale of United States bonds, providing a national currency of uniform value by issuing its own notes and constantly testing the convertibility of state bank notes, aiding in the maintenance of the monetary standard by insisting on sound Government fiscal policy, and contributing to the stability and reasonableness of both domestic exchange rates and interest rates. The charter of the First Bank, which expired in 1811, was not renewed owing mainly to the bitter opposition of the state banks.

After a short period of speculative state banking during which monetary conditions became chaotic, a 20-year charter was granted to the Second Bank of the United States in 1816. The plan of organization and functions of the Second Bank were nearly identical with those of its predecessor. While its record was marred by mismanagement during the first few years, it subsequently became a public institution of great service to the country. But despite this fact President Jackson led a powerful political attack upon the Bank which succeeded in blocking a renewal of the charter in 1836. As a consequence, the financial system of the country, deprived of essential services and lacking guidance or leadership, was probably the most inefficient and unsatisfactory in the world during the ensuing 78-year period.¹

b. Makeshift Central Banking

The outstanding feature of banking development in the period intervening between the demise of the Second Bank of the United States and the establishment of the Federal Reserve System (1836-1914) was the attempt to provide badly needed central banking services without actually creating a central bank. The

¹ For a more complete description of the First and Second Banks of the United States, see Chapter X

latter was virtually a political impossibility owing to the "fear of a centralized money power" which was crystallized by President Jackson and became thereafter a deeply rooted tradition of the West. But, as history has convincingly demonstrated, the object was not practically attainable by such indirect, piecemeal methods. These methods employed as agencies the United States Treasury, the national banking system, correspondent banking relationships, and clearinghouse associations.

Shortly after the Second Bank was relieved of its public responsibilities the Government was forced to make special provision for the safety of the public funds. The panic of 1837 and the depression that followed caused widespread bank failures, and very nearly swept several states clean of any banking facilities whatever. The state banks to which the Government funds had been shifted from the Second Bank were unsafe and unfit as public depositories. Accordingly, the Independent Treasury system was established in 1846. Under this system subtreasuries, eventually nine in number, were created at convenient points in the country to receive, hold, and disburse the public funds in specie. But this apparently promising plan embodied a fatal drawback. Even in normal times the money market was badly disturbed as the Treasury alternately absorbed or released the specie reserve of the banks. When the Civil War necessitated Government borrowing on a vast scale, the system broke down entirely. From that time on a large part of the public funds was deposited with the national banks.

The Treasury also attempted in another way to make up for the absence of a central bank in the post-Civil War period. When for some reason the banks were short of reserves, the Treasury often attempted to furnish relief by shifting public deposits to a troubled area, either from other banks or from its store of cash. At times this practice was followed with beneficial effects, but it was doubtless more often a source of disturbance in the money market. With a constantly shifting political personnel, the Treasury gave only irregular attention to the problem, usually in response to emergency calls for help. Also, political considerations not infrequently determined the allotment of public funds among the banks. On the whole, therefore, the practice was at best a poor substitute for the continuous, nonpolitical, support of a central bank.

Further steps in furnishing the services expected from a central bank were taken under the national banking system, founded in 1863. The most important of these was provision for a bank-note currency of uniform appearance and value—the national bank note—to replace the hundreds of motley issues of state banks. Note issue by the latter was effectively curbed in 1866 by the imposition of a 10 per cent tax. A second step in this direction was the provision made for using selected national banks as depositaries for Government funds upon the pledge of acceptable securities. No longer was it necessary for the Treasury to drain the banks of their reserves during tax-collection periods.

Still further progress was made with the development of the vast system of “correspondent banking” in the country. This was a joint outgrowth of legal reserve requirements, the prohibition of branch banking, and the lack of central banking facilities. Under this system, as previously described, a large part of the legal reserves of the smaller banks was maintained as deposits in leading city banks where they yielded a small interest return. A high degree of concentration of these reserve deposits in a few large New York City banks existed. These banks held about 60 per cent of total bankers’ balances in the country. In addition to paying interest on balances, they made loans to correspondents in need of reserves, gave investment advice, made collections, and performed various minor services. Had there been a greater degree of coordinated action among these big city banks in recognition of their public responsibility as trustees of the ultimate banking reserves, it is conceivable that they might have furnished a workable substitute for formal central banking. But such was not the case.

Finally, the clearinghouse associations, which were organized in every city, succeeded in some measure in performing central banking services. One of the important functions of a central bank is that of providing an efficient system for the clearance and collection of checks and other cash claims. The clearinghouses became agencies not only for the offset of local items but also for the presentation of out-of-town claims against drawee banks. Also, in times of financial crisis the clearinghouses met the need for central bank credit in a limited way by the issue of clearinghouse certificates. These certificates were issued to

member banks upon the pledge of acceptable assets and were receivable in settlement of debts to other banks. They were utilized in 1873, 1884, 1893, 1898, 1901, 1908, and 1913.

Thus, by various patch-work methods, some of the functions of a central bank were performed before the Federal Reserve System. But the methods were so inadequate and uncoordinated that at best they constituted no more than a makeshift solution.¹

c. Origin of the Federal Reserve Act

The progress of the banking-reform movement was traced in the preceding chapter down to the introduction of the National Monetary Commission bill into Congress in 1912. The Commission had, it will be recalled, made important contributions to the movement by awakening public interest to the vital need for reform, and by preparing a bill based upon a study of both previously suggested measures and European central banking systems. This bill, however, owing to the changed political complexion of Congress, had not the slightest chance of passage, and received little further consideration.

But fortunately the reform movement did not die with the change of administrations. Immediately after his election President Wilson wrote to Hon. Carter Glass: ". . . the question of the revision of the currency is one of such capital importance that I wish to devote the most serious and immediate attention to it." Mr. Glass was at the time Chairman of the subcommittee on legislation of the Banking and Currency Committee of the House. He was an able and ardent advocate of reform, and his committee had already prepared a tentative draft of a banking bill. With the assurance of support from the President, he put forth every effort to draft a thoroughgoing reform bill that would be acceptable to Congress.

The limitations of space prevent recounting here more than a few salient facts concerning the course of the bill through Congress. The customary hearings were held during January and February at which testimony was presented by representatives of all interested groups. After considerable recasting of the measure to meet valid criticisms, and after resolving a number of

¹ Many of the ideas expressed in this section were suggested by H. P. Willis, *The Theory and Practice of Central Banking* (New York, Harper & Brothers, 1936), Ch. 4.

apparently unsurmountable political obstacles, the bill was passed by the House on September 18, 1913, with a convincing majority, 287 to 85. In the Senate, however, the forces of opposition were more strongly entrenched. After public hearings and extended debate, the Owen bill was passed by a vote of 54 to 34 on December 19. But since there was a material difference between the Glass and Owen bills, it was necessary to refer them to a Conference Committee of the two Houses. The conference report, which adhered closely to the Glass bill, was adopted by the House, 298 to 60, and by the Senate, 43 to 25. President Wilson signed the bill on December 23, 1913.

Too much credit can scarcely be given to President Wilson and Chairman Glass for securing passage of the bill in the face of powerful opposition that time and again threatened either to block it entirely or to undermine its essentials. Most bankers fought the measure bitterly, using every known device to bring pressure upon Congress. The city banks feared particularly the loss of country-bank deposits by the transfer of reserves, and control by a Government board. Country banks were most concerned about loss of revenue from exchange charges and compulsory subscriptions to Reserve bank stock. In addition, the bill faced the serious handicap of an almost solidly hostile press. But strangely enough, much of the opposition of both bankers and the press turned into warm support after the measure was passed. Many came to view the program more broadly and to realize that, while certain details were objectionable, the new system as a whole held forth great promise.

II. ORGANIZATION AND STRUCTURE OF THE FEDERAL RESERVE SYSTEM¹

1. FEDERAL RESERVE BANKS

In view of the strong prejudice of the country against "concentration of the money power" a single central bank with branches, following the European plan, was entirely out of the question. The framers of the Federal Reserve Act, therefore, wisely avoided criticism on this score by devising a decentralized system. Their plan contemplated a number of separate central

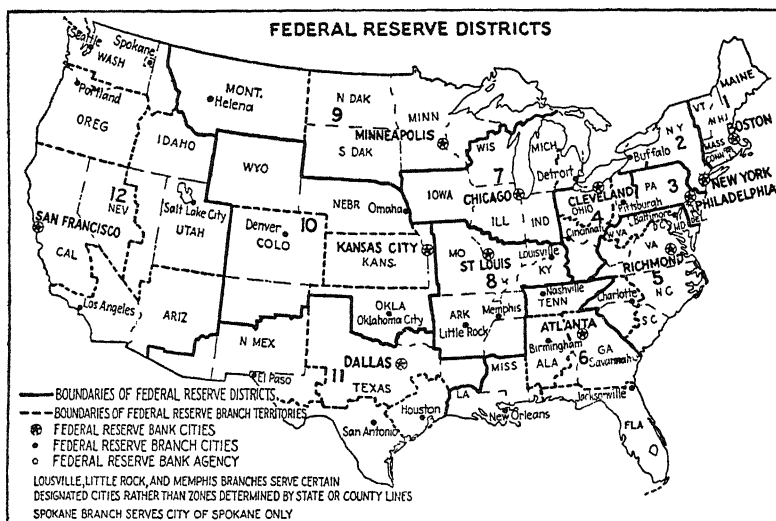
¹ In order to avoid confusion, emphasis is placed upon the present status (1937) of the System, and the description of intermediate developments is postponed until later chapters.

banks, each serving an assigned district, and a central governing board to coordinate the separate units into a unified national system.

a. Federal Reserve Districts

The act provided that the country should be divided into not less than 8 or more than 12 Federal Reserve districts, and that a Federal Reserve city should be designated in each district. This task, as well as much of the important initial work of organization, fell to the Organization Committee, composed of the

CHART 5.—FEDERAL RESERVE DISTRICTS



Secretary of the Treasury, the Secretary of Agriculture, and the Comptroller of the Currency. After careful investigation, including public hearings of representatives from over 200 cities, the committee determined upon 12 districts and cities as headquarters for the Federal Reserve banks. In the order of districts, these were: Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco (see map). The main factors governing the committee's decision were: (1) established commercial and banking relationships; (2) transportation and communication facilities between the Federal Reserve bank and all parts of the district; and (3) fair distribution of banking capital among

districts. Unfortunately, also, politics played some part in shaping the final plan.

Although several adjustments of district lines have been made by the Board of Governors, the districts remain today substantially as outlined by the Organization Committee. No changes in Federal Reserve cities have occurred.

The accompanying table will give a more definite impression of the distribution of banking power among the districts. It should be observed, in particular, that the Federal Reserve

TABLE 10.—SELECTED ITEMS SHOWING RELATIVE IMPORTANCE OF FEDERAL RESERVE DISTRICTS, DECEMBER, 1935

Federal Reserve district	Total assets of Federal Reserve banks (000,000 omitted)	Member bank deposits (000,000 omitted)	Number of member banks	Land area (square miles)	Estimated population, July 1, 1935 (000 omitted)
1 Boston	\$ 785	\$ 2,056	365	61,345	8,084
2 New York	4,342	12,073	793	51,890	16,637
3 Philadelphia	641	2,245	656	36,842	7,919
4 Cleveland	820	2,555	622	73,424	11,633
5 Richmond	424	1,190	404	152,316	11,935
6 Atlanta	312	933	328	248,226	12,199
7 Chicago	1,822	4,225	702	190,513	18,586
8 St Louis	383	1,050	390	194,810	10,220
9 Minneapolis	242	777	501	414,004	5,381
10 Kansas City	358	1,112	726	480,438	8,061
11 Dallas	240	780	550	386,116	7,219
12 San Francisco	657	3,484	350	638,852	9,647
Total	\$11,026	\$32,480	6,387	2,973,776	127,521

SOURCE *Annual Report of Board of Governors, 1935*

Bank of New York with approximately 40 per cent of total resources, far overshadows any of the others in size. Taken together the Banks of New York and Chicago represent 56 per cent of total resources. This, of course, is to be expected in view of the leading position of these cities as money markets.

b. Charter, Capital, and Earnings

Each one of the 12 Federal Reserve banks is a corporation chartered by the Federal Government for an indeterminate period. The original charters were granted for twenty years,

but the McFadden Act of 1927, by providing indeterminate charters, wisely removed the hazard which ended the careers of both the First and Second Banks of the United States. Under existing law the charters can be annulled only by an act of Congress or for violation of law.

The capital stock (par value \$100) of each Federal Reserve bank is entirely owned by the member banks of its district, although shares may be sold to the United States Government or to the general public. A member bank is required to subscribe for such stock to the amount of 6 per cent of its capital and surplus. Only one-half of this subscription has been called, however, so that the item Federal Reserve bank stock, which appears on member bank statements, is always 3 per cent of capital and surplus. In case a member bank changes the amount of its capital or surplus, a corresponding adjustment must immediately be made in its subscription to Reserve bank stock. Similarly, in the event of liquidation of a member bank or withdrawal from membership, the Reserve bank must refund the amount of the cash-paid subscription plus accrued dividends, if earned, since the last dividend period.

The stockholders (member banks) are entitled to receive a cumulative dividend of 6 per cent per annum. Net earnings of the Reserve banks in excess of this dividend requirement are paid into a surplus fund.¹ Since this fund is no longer limited by a franchise tax to the Government, it is probable that Congress will appropriate a part of it from time to time for special purposes. For example, the 12 Federal Reserve banks were required by the Banking Act of 1933 to subscribe to stock in the Federal Deposit Insurance Corporation to the amount of one-

¹ This provision was introduced by the Banking Act of 1933. The Federal Reserve Act as originally passed provided that net earnings above dividend requirements should be paid to the United States as a franchise tax, except that one-half of such earnings should be carried to surplus until the surplus fund amounted to 40 per cent of the bank's paid-in capital stock. An amendment in March, 1919, had the effect of strengthening the surplus fund by reducing the share of the franchise tax. By its provisions all net earnings after dividends should be transferred to surplus until this fund amounted to 100 per cent of the subscribed capital. But after surplus reached that level, 10 per cent of net earnings in excess of dividends should be transferred to surplus and the remainder should be paid to the United States. In the period, 1917-1932, the Reserve banks paid franchise taxes which amounted to \$149,138,300.

half their surplus at the time, \$139,300,000. Future drafts on the fund for this purpose are not improbable.

c. Management

Each Federal Reserve bank is supervised by a board of directors of nine members, holding office for three years, and divided into three classes: A, B, and C. The three Class A directors represent the stockholding banks; the three Class B directors represent the business interests of the district; and the three Class C directors are representatives of the Board of Governors of the Federal Reserve³ System. Class B directors must be actively engaged in business or agriculture within the district and may not be officers, directors, or employees of any bank.

In order to assure wide representation of business and banking interests on the board, a rather involved method of electing the Class A and B directors is indicated by the act. The member banks of each district are divided into three size-groups for voting purposes—large, intermediate, and small. Each group then elects one Class A and one Class B director.

The three Class C directors, who must be residents of the district, and who may not be officers, directors, employees or stockholders of any bank, are appointed by the Board of Governors. One of the Class C directors, who must be a person of tested banking experience, is designated as chairman of the board of directors of the Federal Reserve bank and also as "Federal Reserve Agent." In the latter capacity, he maintains a local office of the Board of Governors on the premises of the Federal Reserve bank, and acts as the Board's official representative. His special functions in connection with the issue of Federal Reserve notes are described fully in a subsequent section.

The chief executive officer of each Federal Reserve bank, to whom all other officers are directly responsible, is the president. He is appointed for a term of five years by the board of directors, with the approval of the Board of Governors.

d. Branches and Agencies

With the object of making Federal Reserve facilities more readily available in all parts of the country, there have been established, in addition to the 12 parent banks, 25 branches and

2 agencies (see Chart 5, page 188). Provision for such branches is made by the Federal Reserve Act which empowers the Board of Governors to permit or require any Federal Reserve bank to establish or discontinue branch banks within its district.¹

The branches are allocated a definite territory, and most of them perform for their assigned members all the services that are made available by the parent institution. A few branches, however, are more restricted in their activities, particularly in the rediscount of commercial paper which must be forwarded to the main bank for inspection. Operations of the two agencies at Savannah, Georgia, and Havana, Cuba, are limited principally to meeting local currency requirements.

2. MEMBERSHIP

All national banks are required to be members of the Federal Reserve System, and state banks and trust companies—including mutual savings and Morris Plan banks—are permitted to join the System upon meeting certain specified conditions. Private banks, however, are denied membership. The conditions which a state bank or trust company desiring membership must meet are, in general, the same as those imposed upon national banks. The Board of Governors is directed to consider the financial condition of an applicant, the character of its management, and whether the corporate powers exercised are consistent with the act. In addition, the applying bank must meet the minimum capital requirements of a similarly located national bank, subscribe to the appropriate amount of Federal Reserve bank stock, comply with reserve requirements, and conform to specified standards set by the National Bank Act. On the contrary, should a state bank or trust company wish to withdraw from membership, provision is made for the redemption of its Reserve bank stock and the return of its deposits. The membership of the System thus consists of a compulsory nucleus—the national banks—and a voluntary group of state institutions.

Attention is here called to Table 11 which should aid in visualizing the present status of Reserve System membership. If mutual savings banks be excluded,² it is observable that mem-

¹ Section 3.

² Such exclusion is justified for the purpose of this comparison, since the Federal Reserve System is designed to be of service to commercial banks and has little to offer pure savings banks.

TABLE 11—CLASSIFICATION OF ALL BANKS IN THE UNITED STATES,
MARCH 4, 1936

Type of bank	Number	Deposits* (000,000 omitted)
Member banks:		
National	5,375	\$20,605
State	1,002	11,169
Total	6,377	\$31,774
Nonmember banks:		
Mutual savings banks	569	9,972
Other nonmembers	8,862	7,025
Total	9,431	\$16,997
Total of all banks	15,808	\$48,771

SOURCE. *Federal Reserve Bulletin*, August, 1936, p. 643.

* Exclusive of interbank deposits

ber banks hold about 80 per cent of deposits but represent only 42 per cent of the number of banks. In other words, the large banks are usually in the System and those on the outside are mostly small institutions. To be more exact, the average member bank holds deposits of about \$5,000,000 as compared with less than \$800,000 for nonmembers. The latter typically have a high proportion of savings deposits and are most numerous in the agricultural sections of the country.

3. THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

The Board of Governors is composed of seven members, appointed by the President with the advice and consent of the Senate for a term of fourteen years. In order to provide continuity of policy and to prevent "packing" by one administration, the terms are staggered so that not more than one expires in any two-year period. Reappointment, after serving a full term, is illegal, presumably for the purpose of preventing domination over a long period by one interest or group of persons. The chief executive officer of the Board is the chairman, who is designated by the President to serve a term of four years. A vice-chairman, who presides in the absence of the chairman, is also desig-

nated for a similar term. Each member receives an annual salary of \$15,000, together with necessary traveling expenses, and is expected to devote his entire time to the job.

In selecting the members, the President is directed to "have due regard for a fair representation of the financial, agricultural, industrial, and commercial interests and geographical divisions of the country." Not more than one member may come from a single Federal Reserve district; and no member may be an officer, director, employee, or stockholder of any banking institution. The principal offices of the Board are located in Washington, D. C.

4. THE FEDERAL ADVISORY COUNCIL

Although purely an advisory body, the Federal Advisory Council should not be regarded as an unimportant part of the Reserve System. It is composed of one representative of each Federal Reserve district, selected annually by the respective Reserve banks. The council must meet in Washington, D. C., at least four times a year. It may confer directly with the Board of Governors and make recommendations upon any matter relating to Reserve policy or practice.

The purpose of the council is to make certain that the Board is regularly made familiar with Reserve System problems as seen from the point of view of the local districts. In practice, the members are usually prominent local bankers who often regard the short appointment more as an honor than a responsibility. Nevertheless, the council has upon occasion brought considerable healthy influence to bear, and its existence provides a useful check upon the policies and operations of the System.

5. THE FEDERAL OPEN MARKET COMMITTEE

One of the most powerful weapons of the Reserve System for the purpose of making their credit policy effective is the purchase and sale of securities in the open market. These dealings are usually referred to as "open-market operations." It is the function of the Federal Open Market Committee to direct such operations for the System with a view to accommodating business and creating sound credit conditions in the country. No Reserve bank may engage in open-market operations except under the direction and the regulations of the Committee. These pro-

visions are designed to assure complete coordination in the security dealings of the System so that the different banks will not work at cross purposes on a matter of national scope.

The Committee is composed of the Board of Governors and five members selected annually by the Federal Reserve banks, which for this purpose are cast into five groups. The Board thus holds the balance of power, but the Reserve banks have strong enough representation to assure large influence.

6. COMPARISON WITH ALDRICH PLAN

A comparison of the organization of the Federal Reserve System with the Aldrich Plan,¹ proposed by the National Monetary Commission, reveals that the pivotal difference was one of banking control. Both measures made provision for essential central banking services, and both were founded upon the basis of classical banking doctrine. But it will be recalled that the Aldrich Plan placed control of central banking with the bankers and particularly with the large city banks. In contrast, the Federal Reserve Act placed the control of broad banking policies in a government board and made careful provision for local and small-banker representation. Analysis of the Reserve System organization shows the following democratic or local-viewpoint features: (1) qualifications of the Board of Governors; (2) creation of 12 central banks with coordinate authority, instead of a single bank with branches; (3) method of selection of the boards of directors of the Federal Reserve banks; (4) creation of the Federal Advisory Council; and (5) a large measure of government control.

¹ Described in the preceding chapter.

CHAPTER XIII

THE FEDERAL RESERVE SYSTEM: FUNCTIONS

I. POWERS AND FUNCTIONS OF THE FEDERAL RESERVE BANKS

While the Board of Governors supervises the operations of the System and dictates broad banking policies, the actual operating units are the Federal Reserve banks and their branches. It is with them that the member banks have central-banking contacts, and from them that they receive central-banking services. For the purpose of convenience in discussion, the powers and functions of the Reserve banks may be listed as follows:

1. Holding the legal reserves of member banks and the lawful money reserves of the monetary system.
2. Making advances of reserves and currency to member banks.
3. Engaging in open-market operations.
4. Serving as central supply stations for hand-to-hand currency, and issuing bank notes.
5. Clearing and collecting checks and other cash claims, and transferring funds.
6. Performing fiscal agency services for the United States Government.

These functions are discussed in order in the sections that follow.

1. HOLDING BANK RESERVES

All legal reserves of member banks exist as deposit credits on the books of the Federal Reserve banks. The minimum reserve against net demand deposits is fixed by the act at 13, 10, and 7 per cent, respectively, for central reserve cities, reserve cities, and country banks. Against time deposits, a 3 per cent minimum applies to all members. For the purpose of credit control, however, the Board of Governors is granted power to raise these requirements by as much as twice their amount on August 23, 1935. This power was first exercised in August, 1936, when a 50 per cent increase became effective. Then at the end of January, 1937, a further increase of $33\frac{1}{3}$ per cent was ordered, to

become fully effective May 1, 1937. By these two steps the board has raised requirements to the full limit permitted by law, *i.e.*, against demand deposits, the respective percentages become 26, 20, and 14 and against time deposits 6 per cent.

The Reserve banks in turn, are likewise required to hold minimum reserves behind their liabilities. Back of their deposits they must keep 35 per cent in lawful money, and, back of Federal Reserve notes, they must hold 40 per cent in gold certificates. Failure to observe these standards subjects them to a penalty tax.¹

2. ADVANCES TO MEMBER BANKS

With the vast fund of member bank reserves concentrated in their possession, the Reserve banks automatically become the repositories of the final lawful money reserves in the United States. Upon this basis, they may then expand their own credit and thereby advance reserves or currency to member banks.

Loans to members are of two types: (1) rediscounts of eligible commercial paper; and (2) advances upon the members' own promissory notes collateralized by United States securities or other acceptable assets.

Commercial paper eligible for rediscount consists of promissory notes, trade acceptances, bank acceptances, or other bills of exchange, which represent the financing of working-capital requirements of business or agriculture. The period until maturity of such business paper may not exceed 90 days, but agricultural paper, owing to the longer production period, may have a remaining maturity of as long as nine months. Obligations representing fixed-capital investment or speculation in securities are not eligible.

Advances to member banks upon the basis of their own notes may be made for periods not exceeding 90 days if the collateral consists of eligible commercial paper, and for periods not in excess of 15 days if the collateral is United States Government securities. Since the latter method is far more convenient, the bulk of accommodation to city-bank members takes this form.

¹ Since the subject of bank reserves is an important and complicated one, a later chapter is wholly devoted to its discussion. For this reason a bare outline of essential facts is given at this point.

Under regulations of the Board of Governors, Reserve banks may also make advances to members for periods not exceeding four months upon the basis of any *satisfactory*, though ineligible, collateral. The rate of discount applied in this case, however, must be at least 0.5 per cent higher than the highest rate in effect at the Reserve bank.

Each Reserve bank fixes the rates of discount at which it rediscounts commercial paper for, or makes advances to, the member banks of its district, but "subject to review and determination of the Board of Governors."

3. OPEN-MARKET OPERATIONS

In addition to loans directly to member banks the Federal Reserve banks have wide powers to extend or contract their credit by the purchase and sale of specified types of securities in the open market. They may deal in securities issued by, or fully guaranteed by, the United States Government; cable transfers; eligible bills of exchange—both foreign and domestic, and including bankers' and trade acceptances; the obligations of states, municipalities, and other political subdivisions, provided the remaining maturity does not exceed six months; and finally, gold coin and bullion, but under the close restrictions of the Gold Reserve Act of 1934. Such dealings may be with any bank, business firm, or individual under regulations set forth by the Board. In practice, the open-market holdings have consisted almost entirely of United States securities and bankers' acceptances.

Furthermore, since 1934 the Reserve banks have been empowered to make direct advances to business firms for working-capital purposes when such accommodation is not available from the usual sources.

Although discussion of the significant role of open-market operations in credit regulation must be postponed until a later chapter, introductory attention is here called to the matter. A moment's reflection should make clear that the sale of securities by Reserve banks tends to reduce reserve balances of member banks and, therefore, to produce high money rates and credit contraction; and conversely, that the purchase of securities tends to increase member bank reserves and, therefore, makes for credit expansion.

4. HAND-TO-HAND CURRENCY FUNCTIONS

When larger amounts of hand-to-hand currency are needed, the commercial banks experience cash withdrawals of deposits. Member banks then take steps to replenish their diminished cash from the storehouse provided by the Reserve banks. If the members possess sufficient excess reserve balances, they merely draw upon the excess. But if they have no excess reserves, borrowing at the Reserve banks becomes necessary in order to maintain legal reserves. On the other hand, a return flow of currency from circulation appears first as deposits in the banks and is straightway shipped by them to the Reserve banks for deposit credit (legal reserves). Thus, the Reserve banks serve as central supply stations or currency warehouses, into and out of which flows the country's stock of hand-to-hand money.

In addition to their currency storage services just described, the Reserve banks furnish over two-thirds of the hand-to-hand money in circulation in the form of Federal Reserve notes. These notes are fully described in the following chapter.

5. CLEARINGS, COLLECTIONS, AND TRANSFERS

The provision of facilities to secure a maximum offset of checks and other cash claims is one of the distinctive services of a central bank. This was recognized by the framers of the Federal Reserve Act which included provisions contemplating the establishment of clearing and collection machinery nation-wide in scope. Such facilities were shortly devised and are now operating with great efficiency.

Each Reserve bank serves as a central clearinghouse and collecting agency within its own district. Since all member banks maintain reserve deposits, it becomes a simple matter to debit and credit these accounts in settlement of clearing balances. Then through the Interdistrict Settlement Fund, in account with the Board of Governors, all the separate districts are welded into a single national clearing unit. If, for example, the claims today of district 1 should exceed those against it by the other 11 districts, the account of district 1 in the fund would be increased by the excess while the accounts of the other Reserve banks as a group would be equally reduced. By means of the fund, also, deposits and reserves are speedily transferred by wire from one

Reserve district to another—again, by simply debiting and crediting accounts and without the physical shift of lawful-money reserves.

6. GOVERNMENTAL FISCAL AGENCY

A huge volume and many types of financial services are performed for the Government by the Reserve banks. The Federal Reserve Act requires the Reserve banks, at the request of the Secretary of the Treasury, to receive Government revenues on deposit and disburse them by check and, in general, to act as fiscal agents of the United States.¹ Also, the act of May 29, 1920, which provided for the discontinuance of the nine sub-treasuries and the transfer of their functions to the Reserve banks, largely increased the scope of such services. When this transfer was completed in 1921, the Reserve banks and their branches became, for all practical purposes, the only wholesale distributors of coin and currency in the country, since new issues of Treasury currency are ordinarily deposited in them.

The deposit accounts of the Treasury with the Reserve banks are fed chiefly by income taxes, customs, miscellaneous internal revenues, post-office receipts, the sale of United States securities, transfers from member bank depositaries, and, at times, by the deposit of gold or silver certificates or other Treasury currency. Treasury checks, which are payable at any one of the 37 offices of the Reserve banks, are drawn for a multitude of purposes covering the whole range of governmental activities. Expenditures are made principally for salaries and wages, interest payments, redemption of the public debt, supplies and materials, relief payments, pensions, public works, and war-risk insurance. In practice, the Secretary usually maintains the bulk of Treasury funds on deposit with the member banks, with a working balance of 10 per cent or less at the Reserve banks.² Checks are seldom drawn upon the member bank depositaries except to replenish the working balance at the Reserve banks. Since Treasury expenditures amount annually to many billions of dollars, the Government deposits, at the latter, experience a very high rate of turnover.

¹ Section 15.

² During 1936, apparently for the purpose of holding down the amount of excess reserves of member banks, the Treasury has kept between 30 and 40 per cent of its deposits at the Reserve banks.

One of the principal services to the Treasury is that of handling the distribution of Government securities. This function has assumed particular importance during the depression owing to the vast volume of deficit financing by the Treasury. The Reserve banks announce each new issue, receive subscriptions, and deliver the securities through their offices. They also act as agencies of the Treasury in cashing interest coupons and in redeeming Government securities. Some idea of the enormous volume of these operations is given by the fact that in 1935 the issues, redemptions, and exchanges of United States securities by the Reserve banks amounted to \$30,755,611,000, represented by 6,838,000 separate pieces.¹

Since the Banking Act of 1935, the Reserve banks have been prohibited from buying obligations of the United States directly from the Treasury. The object of this restriction is to place a damper upon Government extravagance by forcing the Treasury to borrow in the open market instead of dumping the public debt into the lap of the Reserve banks. It is also believed that the chances of ultimate repayment of Government obligations are greater when they are held by the public and the commercial banks. In reality, the provision has little significance as a safeguard against shortsighted officials, since the Reserve System may indirectly purchase United States securities in the open market with no restrictions other than the observance of reserve requirements.

Many other services are also performed for the Treasury, including the transfer of Government funds wherever needed in the country through the Interdistrict Settlement Fund, the safekeeping of securities, and the purchase and sale of securities for various special Treasury accounts. In all, it is estimated that about 10 per cent of the entire expenses of the Federal Reserve Bank of New York may be fairly charged to financial services for the Government.²

II. POWERS AND FUNCTIONS OF THE BOARD OF GOVERNORS

The Board of Governors of the Federal Reserve System may be thought of as a sort of superboard of directors, guiding the

¹ *Annual Report of Board of Governors*, 1935, p. 93.

² W. R. Burgess, *The Reserve Banks and the Money Market*, rev ed (New York, Harper & Brothers, 1936) p. 109.

general policies and supervising the operations and practices of the Federal Reserve banks. To the extent that local autonomy is retained by the separate Reserve banks, the Board may also be regarded as a central coordinating agency for the whole System. This conception places less emphasis on the extent of the Board's dictatorial power, and is more nearly in line with the ideas of the framers of the original Federal Reserve Act.

1. INTERPRETATION OF THE FEDERAL RESERVE ACT

Since the Federal Reserve Act in general sets forth only the outlines and broad principles upon which to build the Federal Reserve System, the exceedingly important task of interpreting the act and giving effect to its provisions falls upon the Board. For example, the act makes short-term commercial paper eligible for rediscount and declares that paper representing investment or security speculation is ineligible. But this leaves to the Board the difficult problem of defining these categories more specifically, and of passing upon particular cases.

Similarly, there is scarcely a provision of the act that does not require regulations, more or less technical and complex, to guide the Reserve banks and member banks in their day-to-day operations. Bank reserves, rediscounts and advances, open-market operations, discount rates, loans and investments, deposits, collections and clearings, membership, reports of condition, examinations, acceptances, trust powers, interlocking directorates, affiliates, margin requirements, relations with security dealers—all these, and many other topics dealt with by the act, require interpretative regulations and rulings by the Board.

2. REGULATION OF CREDIT

A preliminary survey of the credit-control powers of the Board is desirable at this point. Credit control means the exertion of influence over both the volume and the character of commercial bank credit. In order to exercise such control wisely, the first need is for a careful formulation of objectives and guiding criteria. This done, the next step is that of giving actual effect to whatever credit policy best serves the basic objectives. For this purpose a technique of control has gradually been developed from central bank experience. The various instruments of credit control may

1. The rate at which the Reserve banks stand ready to discount commercial paper for members may be changed. A high rate of discount, if made effective, raises the cost of borrowed funds and, therefore, tends to reduce the credit supply and the level of prices. Opposite tendencies follow from a low central-bank rate. While each Federal Reserve bank nominally fixes its own discount rate every two weeks, the final authority in case of dispute rests with the Board of Governors who "review and determine" such rates.

2. A change may be effected in the amount of open-market securities held by the Reserve banks. If such securities are sold, the resultant reduction of bank reserves tends to raise money rates. This instrument is particularly useful when used in combination with a simultaneous rise in the discount rate. Again, opposite tendencies follow from the purchase of securities by the Reserve banks. While the Federal Open Market Committee determines open-market policy, it will be recalled that the Board represents seven-twelfths of this committee.

3. The Board is given wide latitude in raising or lowering the legal reserves required of member banks. A rise in such requirements tends, of course, to produce higher money rates while the opposite effect follows from a reduction.

4. A substantial measure of direct control over credit supporting security speculation is lodged with the Board. It may set a definite limit upon the amount of security loans made by member banks, and it may also raise or lower the margin requirements that apply to security loans.

5. The Board is able to exert some influence upon credit conditions by counseling and warning member banks with respect to unsound policies, either directly or through the Reserve banks.

6. Through its power to require one Reserve bank to discount the commercial paper of another, the Board may effectively equalize and pool the ultimate bank reserves of the country.

7. Finally, the power to suspend any reserve requirement of the act for short periods, gives the Board flexibility of control in case of an emergency.

3. SAFEGUARDING THE SOLVENCY OF THE RESERVE BANKS

In addition to general supervision over the Reserve banks, the Board is granted certain specific powers designed to insure the System's integrity. These may be listed as follows:

1. To suspend or remove any officer of a Federal Reserve bank or member bank.
2. To require the Reserve banks to write off any doubtful or worthless assets.
3. To suspend or liquidate a Reserve bank for violation of any provisions of the act.
4. To examine the accounts and records of the Reserve bank and member banks.
5. To require a detailed statement of condition of each Reserve bank once a week. Such statements must be published in both individual and consolidated form.

4. MISCELLANEOUS POWERS OF THE BOARD

There remain a number of other powers of the Board that do not logically fall within the above categories. The more important of these are as follows:

1. To supervise the issue and retirement of Federal Reserve notes and Federal Reserve bank notes.
2. To act as a clearinghouse for the Federal Reserve banks and to regulate collections and transfers of funds.
3. To appoint the Class C directors and Federal Reserve agent of each Reserve bank.
4. To fix the rate of interest that member banks may pay upon time deposits.
5. To accept or reject state bank applications for membership in the Federal Reserve System.
6. To require detailed reports of condition of state member banks and their affiliates.
7. To exercise special supervision over all relationships and transactions between the Federal Reserve banks and foreign banks.
8. To reclassify reserve and central reserve cities, and to readjust the boundary lines of Federal Reserve districts.
9. To grant or withhold permits for: (a) national banks to perform fiduciary services; (b) holding company affiliates to vote national bank stock; (c) member banks to extend acceptance credits up to 100 per cent of capital and surplus; (d) state member banks to establish branches; (e) directors, officers, and employees to serve a member bank and another bank at the same time; and (f) national banks to establish branches in foreign countries, or to

invest in the stock of domestic corporations engaged principally in foreign banking.

III. GROWTH OF THE FEDERAL RESERVE SYSTEM

A brief inspection of Table 12 shows that the Federal Reserve banks have, in little more than two decades, grown to institutions of vast size and power. The Federal Reserve Bank of New York alone, having resources of more than \$4,000,000,000 at the end of 1936, is about one-third larger than the Bank of England, the second largest central bank in the world. Taken together, the Reserve banks are about four times larger than the "Old Lady of Threadneedle Street." Mere size, however, is not a true measure of power and influence. London continues to outrank New York City as a world financial center, and it is very likely that the credit policies of the Bank of England wield a more far-reaching influence than those of the Federal Reserve System.

Some of the included items of the table require further comment. The enormous increase of the resources and reserves of the Reserve banks between 1930 and 1935 is mainly accounted for (1) by the purchase during 1932 and 1933 of over \$2,000,000,000

TABLE 12.—SELECTED ITEMS SHOWING GROWTH OF THE FEDERAL RESERVE SYSTEM, 1915-1935
(In millions of dollars)

Items	1915	1920	1925	1930	1935
Resources of Federal Reserve banks	491	6,283	5,109	5,203	11,026
Reserves of Federal Reserve banks	358	2,249	2,824	3,082	7,835
Currency and coin handled . .		6,816	12,024	14,800	10,113
Checks handled		157,500	258,611	324,883	202,990
Collection items handled:					
U. S. Government coupons . .			681	499	752
All other			6,117	7,528	7,949
Issues, redemptions, and exchanges of U. S. securities . .			5,579	7,245	30,756
Transfer of funds	1,053	92,626	109,431	198,881	80,483
Assets of member banks . .	13,100*	31,184	41,425	47,058	44,122
Number of member banks† . .	7,631	9,606	9,489	8,052	6,387

SOURCE. Compiled from *Annual Reports of the Board of Governors*, as of December 31 of each year except for cumulative items

* Estimated from loans and investments.

† Statistical unit: one bank.

of United States securities in order to encourage business enterprise with artificially low interest rates, and (2) by devaluation of the dollar in 1934 which wrote up the gold stock and induced a huge gold inflow.

The amount of currency handled by the Reserve banks each year draws attention to the magnitude of the task of serving as central supply stations for currency. They receive, count, store, and pay out again, two or three times over, the entire amount of hand-to-hand money in circulation.

A comment on the volume of checks handled is scarcely needed since the size of the item speaks for itself. It is enough to remark that this amount in recent years has been roughly equivalent to the entire national wealth.

Finally, a mistaken impression might be conveyed by the decline in number of member banks. Actually, there has been a larger relative decline of nonmember banks so that the proportion of members has increased. To be more exact, at midyear 1920, the member banks represented 31 per cent of the number and 58 per cent of the deposits of all banks in the country. By the end of 1935, these percentages were 41 and 65, respectively.

IV. THE FEDERAL RESERVE BANK STATEMENT

An understanding of either the underlying or the day-to-day forces at work in the money market is impossible without close attention to the position of the Federal Reserve banks. Fortunately, the Board of Governors publishes a detailed statement of their condition, singly and combined, as of Wednesday each week. These reports along with those of member banks in leading cities, also released weekly, are invaluable to bankers, businessmen, and others who wish to keep well informed on the financial situation. A recent statement of the Federal Reserve banks is presented in Table 13. While some of the items are self-explanatory, several of them require brief discussion before intelligent interpretation is possible.

The "reserves" of the Federal Reserve banks must consist of gold certificates and other kinds of "lawful money" which include United States notes, silver certificates, silver dollars, subsidiary silver, and minor coin. Since the Gold Reserve Act of 1934, the monetary gold stock has been held by the United States Treasury.

TABLE 13.—ASSETS AND LIABILITIES OF THE TWELVE FEDERAL RESERVE
BANKS COMBINED
(In thousands of dollars)

Items	Sept 30, 1936	Oct 2, 1935
Assets		
Gold certificates on hand and due from U. S. Treasury	8,384,683	6,634,653
Redemption fund—Federal Reserve notes .	12,428	19,660
Other cash	261,445	206,946
Total reserves	8,658,556	6,861,259
Bills discounted:		
Secured by U. S. Government obligations, direct or fully guaranteed	2,893	5,311
Other bills discounted	6,558	5,178
Total bills discounted	9,451	10,489
Bills bought in open market .	3,098	4,689
Industrial advances	28,145	30,070
U. S. Government securities		
Bonds	378,077	238,962
Treasury notes .	1,443,363	1,679,569
Treasury bills	608,787	511,681
Total U. S. Government securities	2,430,227	2,430,212
Total bills and securities . . .	2,470,921	2,475,460
Due from foreign banks	217	638
Federal Reserve notes of other banks	22,640	22,564
Uncollected items	622,578	542,725
Bank premises	48,060	50,074
All other assets	39,232	42,492
Total assets	11,862,204	9,995,212
Liabilities		
Federal Reserve notes in actual circulation	4,049,143	3,481,907
Deposits:		
Member bank—reserve account	6,356,952	5,223,616
U. S. Treasurer—general account	252,737	90,841
Foreign bank .	51,950	14,687
Other deposits . .	181,873	291,675
Total deposits	6,843,512	5,620,819
Deferred availability items	620,360	549,267
Capital paid in	130,162	130,522
Surplus (Section 7)	145,501	144,893
Surplus (Section 13b)	27,088	23,457
Reserve for contingencies	34,241	30,694
All other liabilities .	12,197	13,653
Total liabilities	11,862,204	9,995,212
Ratio of total reserves to combined deposit and Federal Reserve note liabilities	79.5%	75.4%
Commitments to make industrial advances	23,307	26,748

"Total bills and securities" is a significant item since it represents the amount of Reserve bank credit released to the market through the two main channels, discounts and open-market operations. "Bills discounted" refers to the aggregate of member-bank borrowing whether by their own secured notes or by rediscounts of customer paper.

Open-market holdings are composed of the three items: United States securities, bills bought, and industrial advances. "Bills bought" refers principally to prime bankers' acceptances which the Reserve banks always stand ready to buy at a published rate of discount. "Industrial advances" represent direct loans to business firms for working capital purposes.

"Uncollected items" and "deferred availability items" should be considered together since they represent the same factor from different points of view. The former includes checks and other cash claims in process of collection through the Reserve System, while the latter represents the liability of the Reserve banks during the collection period to member banks sending through such items.

"All other assets" is a catchall item, including among other things, premium on securities, interest accrued, and deferred charges.

"Other deposits" consists mainly of nonmember bank clearing accounts but also includes officers' checks, transfer and exchange drafts, deposits of the Federal Deposit Insurance Corporation, and other special accounts.

The reserve ratio of 79.5 per cent is the relation between "total reserves" and combined deposit and Federal Reserve note liabilities.

"Capital paid in" represents the capital stock of the Reserve banks owned by the member banks. "Surplus (Section 7)" is the earned surplus while "Surplus (Section 13b)" refers to advances by the United States Treasury for the purpose of making "industrial advances."

"All other liabilities" includes such items as unearned discount, discount on securities, accrued taxes, and unpaid dividends.

The present brief description of the Federal Reserve bank statement is designed only as a foundation for further consideration in the chapters that follow. In order to appreciate its usefulness one must not only be familiar with the meaning of each item but must

also be aware of the relationships among the items and with outside factors.

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CHAPTER XIV

BANK-NOTE CURRENCY: ORIGIN AND GOVERNING PRINCIPLES

In modern monetary systems practically all hand-to-hand currency needs, aside from small change, are met by note issues of central banks. This practice, however, is the culmination of a long evolution and is of comparatively recent origin. When bank notes first came into use in the second half of the seventeenth century, the circulating moneys of Europe consisted almost entirely of coin. In the next two centuries bank notes and coin circulated side by side, but the former gradually displaced the latter in circulation, and large reserves of coin came to be held in bank reserves. In addition, state paper money, used in China for centuries, was issued by certain governments to meet war or other emergency expenditures, and vestiges of such issues usually constituted a part of money supply.

The bank notes of this period were issued both by the commercial banks and by the existing central banks. But during the last half of the nineteenth century, note issue came more and more to be recognized as a central-bank function. Numerous legal restrictions on issue by the commercial banks appeared in various countries. It remained, however, for the period of monetary reorganization following the World War to hasten this transition. Without important exception, the newly created central banks of the world were then granted a note-issue monopoly.

A central bank has obvious advantages over the individual banks as a note-issuing agency. The essential task of currency regulation—which should have the purpose of providing a safe, elastic currency that circulates at par with standard money—is greatly simplified when there is but one, or a very few, banks of issue. These aims are very difficult, if not impossible, of attainment when notes are issued by thousands of institutions under a “free banking” system.

Experience has also proved that a central bank is better adapted to supply the paper currency of a country than is the Treasury Department. Under a system of direct issue of government notes, there is unquestionably a greater temptation to follow the easier course of paying out more government notes instead of balancing the budget by orthodox means. This inherent feature magnifies the dangers of a drastic inflation with all its accompanying maladjustments and hardships. At best, a Treasury Department is likely to regard purely fiscal considerations as always of paramount importance, with the result that questions of proper monetary policy receive little, or at least inadequate, attention.

I. NATURE OF BANK NOTES

A modern bank note, although a highly specialized instrument, is simply a particular form of credit. It is the promise of a bank, nearly always a central bank, to pay to the bearer on demand a specified sum of standard or lawful money. For the sake of convenience in making payments, such notes are commonly issued in a wide range of denominations. Usually also, their value is tied firmly to that of the monetary standard by the device of interconvertibility, and they are made a legal tender in settlement of debts.

From the standpoint of the balance sheet of the issuing bank, notes do not differ in substance from demand deposits. Both represent liabilities to pay standard or lawful money upon demand; both require adequate reserves for this purpose among the assets. Both of them, furthermore, serve as mediums of exchange and, when taken together, constitute the bulk of the effective money supply.

Despite these basic similarities, however, there are obvious differences between these two forms of money. Notes are issued in round denominations by the central bank and pass from hand to hand without endorsement. Deposits, on the other hand, circulate by checks drawn upon commercial banks for the exact amount of each payment. Checks are usually drawn "to order" rather than "to bearer" and are therefore transferable only upon endorsement. Their goodness obviously depends not only upon the drawee bank but also upon the sufficiency of the drawer's account. For these reasons, checks in contrast with notes seldom

have a life beyond the specific transaction for which they are drawn—being speedily returned to the drawee bank for collection.

Another difference between the two forms exists in the more stringent legal regulations applied to notes in most countries. Noteholders are safeguarded by such devices as a prior claim on assets, the deposit of specified securities in trust, guarantee by the government, and high reserve requirements. Deposits, however, are generally free from regulation in foreign countries, and in the United States the restrictions are far less onerous.

This variance in legal treatment arose under earlier conditions when the commercial banks still possessed the issue privilege. If the notes were to serve satisfactorily as hand-to-hand currency, it was essential that they be, without any question, acceptable at par with the standard in all parts of the country. Without certain regulations concerning safety and redemption, such general acceptability would obviously have been impossible, since people not familiar with the issuing bank would have reason to question their value. Regulations were, therefore, necessary in that period, both to assure a satisfactory currency and to safeguard noteholders.

Now, with the issue function centralized, numerous existing restrictions have become outworn and continue to exist merely through the powerful force of custom. Even today, however, more stringent regulation of notes is justified in view of the great importance of having a completely satisfactory hand-to-hand currency. Checks, in contrast again, are voluntarily accepted by the payee who presumably is familiar with the credit standing of a responsible party, the drawer.

Still a further difference between notes and deposits exists in connection with their specialized functions. Notes are used principally for purposes of small payments in retail trade, for pay rolls, and pocket money. Checks, on the other hand, are used in meeting almost all large payments whether by individuals, business firms, or governments. In the English-speaking world, practically all payments for goods at wholesale, for securities, and for real estate, and a large proportion of payments in retail trade and for services are made by check. In all, about 90 per cent of total payments are effected by this method.

On the continent of Europe, however, and in most other countries, notes remain the more important medium. In the

United States, it was not until just before the Civil War that the amount of deposits exceeded notes, although checks were used extensively in the cities from the beginning of the nineteenth century. The growth of the check habit proceeded steadily after the 60's until now the volume of circulating deposit currency exceeds hand-to-hand currency about six times. Thus, while central-bank notes have come to supply the bulk of the world's hand-to-hand money requirements, deposit currency has at the same time been assuming a larger and larger part of total money supply.

II. HISTORICAL DEVELOPMENT

1. ENGLAND

According to students of banking history, bank notes were originated by the London goldsmiths in the second half of the seventeenth century. The following specimen of one of these early notes is of particular interest:¹

Nov. 28, 1648.

I promise to pay the Rt. honble, ye Lord North and Grey, or bearer, ninety pounds at demand

For Mr. Francis Child and myself,
Jno. Rogers

They were then known as goldsmiths' or bankers' notes. At first they were written in longhand but in 1729 the practice of using printed forms commenced. Some writers believe the origin of banknotes to have been with the early Greek bankers (trapesites) of the sixth and seventh centuries, B.C. But this notion is erroneous. For while they received deposits of coin, and transferred such deposits by orders similar to our modern check, they did not issue circulating notes. The same was true of the Bank of Venice (1587), the Bank of Amsterdam (1609), and the Bank of Hamburg (1619).²

The private bankers in England continued to issue notes until the Bank Charter Act of 1844, as did also the joint-stock banks³

¹ H. D. MacLeod, *Theory of Credit*, 2d ed. (London, Longmans, Green & Company, 1893), Vol. I, p. 375.

² See J. L. Laughlin, *Money Credit and Prices*, (Chicago, University of Chicago Press, 1931), Vol. II, pp. 44-66

³ Except those within 65 miles of London, in which area only the Bank of England and the private bankers were allowed the issue privilege.

and the Bank of England which was chartered in 1694. The bank, however, limited its notes to large denominations so that a large field for the use of coin and the notes of other banks existed.

Two important changes in the currency were brought about by the famous Bank Charter Act of 1844, also known as Peel's Act after Sir Robert Peel. The first of these laid the basis of a note-issue monopoly for the Bank of England throughout England and Wales. Private banks and joint-stock banks were prevented from increasing their issues, and it was further provided that the Bank of England might replace two-thirds of any discontinued issues with its own notes. The second change was concerned with the character of Bank of England notes themselves. The bank could issue notes up to £14,000,000 backed by government debt, but beyond this amount the notes were required to be secured pound for pound by gold coin or bullion. With the exception of the fiduciary backing, therefore, the bank's notes became equivalent to gold certificates; and the greater the volume of issue the more nearly they approached this status.

One by one through the years, the joint-stock banks and private banks relinquished their right of issue until for practical purposes the bank has been the sole supplier of paper currency since the turn of the twentieth century. During the War, however, the Exchequer departed from tradition by issuing a large volume of £1 and 10s. Treasury currency notes. At the end of 1920, the outstanding volume of these notes reached a maximum of £368,000,000. But in November, 1928, by taking over the outstanding Treasury currency, the bank again became the sole note-issuing agency—a status which it retains today (1937).

2. FRANCE

France received a most discouraging and disastrous introduction to bank notes through becoming a victim of John Law's monetary schemes. Law, a brilliant English adventurer and gambler, believed that a country's prosperity could be indefinitely increased by enlarging the supply of money. He gained the confidence of the Duke of Orleans, Regent during the minority of Louis XV, and was granted a charter in 1716 for the Banque Générale with unlimited powers of note issue. In the following

year, Law plunged the banque into a gigantic speculation by taking over the Company of the West which held a monopoly of the colonial possessions of France in the New World. One speculation followed another, each involving further issue of notes until by 1720, when the bubble burst, there was outstanding some 3,000,000,000 livres of notes and 5,000,000,000 livres of bank shares convertible into notes backed by a purely nominal amount of coin reserve. The collapse reduced the value of the notes and shares to almost nothing and produced widespread ruin among the people. Thus ended the first great experiment with an inflationary credit scheme based upon the idea that the prosperity of a nation is proportionate to the number of circulating money units.¹

After an interlude of nearly a century, France was visited a second time with the scourge of excessive issues of paper money, this time government notes instead of bank notes. Disregarding the lesson taught by John Law's notes, the new Revolutionary government issued some 45,000,000,000 livres of assignats and 2,500,000,000 *mandats* between 1790 and 1797. These notes, issued to meet government expenditures, were legal tender, and were based upon the security of public land. But such a vast overissuance could have only one end. Commodity prices rose by more than a hundred-fold; in 1796, a gold franc was worth 288 paper francs. The existing creditor class lost nearly everything, and the wage-earning masses suffered great hardship owing to the lag of wage rates behind the rising cost of living.²

With the disappearance of the assignats and *mandats* from circulation, several banks of issue were immediately formed in and outside Paris. Among these was the Bank of France, established in 1800 and granted the exclusive privilege of note issue in Paris by Napoleon in 1803. Between this date and 1848 the currency of France was composed of coin, notes of the Bank of France, and notes of several independent banks outside of Paris. But in 1848 the nine independent banks were all made branches of the Bank of France and their note issues were replaced by notes of the bank. From that date down to the present (1937),

¹ For a full discussion of John Law's experiment, see A. M. Davis, *An Historical Study of Law's System*, *Quarterly Journal of Economics*, Vol. I, pp. 289-318, 420-452, 1887.

² See Laughlin, *op. cit.*, pp. 168-185, for a more detailed description.

the bank has held a complete monopoly of note issue in France. Government regulation has taken the form of setting a legal maximum of issue instead of specifying certain gold reserves. From time to time as the need has arisen this maximum has been raised by Parliament; but since the currency law of 1928, which re-established the gold standard, no maximum limit of issue has been set.

3. GERMANY

During the first three-fourths of the nineteenth century, the currency of the area which became the German Empire consisted of a variety of coins, paper currency issued by most of the separate states, and the notes of numerous independent banks.¹ But with the establishment of the German Empire in 1871, immediate steps were taken in the direction of currency unification. First, the issues of the several states were replaced by Imperial Treasury notes (*reichs-kassenscheine*), convertible into gold. Second, in 1875 the Bank of Prussia was converted into the Reichsbank which was granted note-issuing powers designed eventually to become exclusive. Beyond a fixed amount, the "uncovered issue," the law required that the notes be backed, mark for mark by cash, or else be subject to a 5 per cent penalty tax per annum. In addition, cover of 100 per cent was required in the form of short-term commercial paper and cash, with the latter forming a reserve of not less than one-third of notes. Parity of the notes was assured by convertibility into gold.

The same note-issue regulations applied to the other 32 independent banks of issue, except that should any of them abandon the right of issue, such right would be transferred to the Reichsbank. All but four ceased to issue notes by 1899, and at the end of 1935 their issue privilege expired in accordance with a law passed in December, 1933. While for all practical purposes, the issue of bank notes has been centralized in the Reichsbank for the past sixty years, this marked the final step of the process.

The influence of the English Bank Charter Act of 1844 is clearly distinguishable in the German law of 1875, although the latter possessed independent and definitely superior features. Both made provision for eventual centralization of note issue;

¹ There were 33 such banks of issue when the Empire was established in 1871.

both set a fixed fiduciary limit of issue; and both required that additional issue should be against the deposit of cash. The Germans, however, introduced a new device, the penalty tax upon note issue beyond a fixed amount, designed to eliminate the rigid character of the British system and at the same time to prevent overissue.

When the Reichsbank was reorganized in 1924 after the devastating postwar inflation, the whole system of note issue was changed to resemble in many respects that of the Federal Reserve System. A cover of 100 per cent was required consisting of short-term commercial paper and a reserve of at least 40 per cent gold and gold exchange. Since the crisis of 1931, however, the reserve requirement has not been observed; and at present (1937), the reported reserve is less than 2 per cent of the outstanding amount of notes.¹

4. THE UNITED STATES

Since banking development in the United States has been traced in earlier chapters,² only a bare outline of the origin of bank-note issue is given here.

While there were a few experiments with bank-note issue in the Colonies, such notes were of no real importance. The colonial currency consisted chiefly of a wide variety of foreign coins and notes of the provincial governments. However, during and just after the Revolution four banks of issue were chartered by the states.³

The growth of state banks was rapid, reaching 88 in 1811 with circulation of \$23,000,000; 330 in 1830 with circulation of \$61,000,000; and 1,466 in 1863 with circulation of \$239,000,000. From 1791-1811, also, the First Bank of the United States had an outstanding issue ranging from \$5,000,000 to \$25,000,000. The

¹ For those who desire a more detailed treatment of German banking development the following references are suggested: H. P. Willis and B. H. Beckhart, *Foreign Banking Systems* (New York, Henry Holt and Company, 1929), pp. 627-722; C. F. Dunbar, *The Theory and History of Banking*, 5th ed. (New York, G. P. Putnam's Sons, 1929), pp. 213-234. The brief treatment given here is based largely on these sources.

² Chapters X and XI.

³ The Bank of North America (1781), first chartered by the Continental Congress, then by Pennsylvania; the Bank of New York (1784); the Bank of Massachusetts (1784); and the Bank of Maryland (1790).

notes of the banks of the United States were conservatively backed by specie and formed a nucleus for a dependable currency of uniform value throughout the country. But, with a few notable exceptions, the issues of the state banks represented excessive speculation. Hundreds of such issues circulated at widely varying degrees of depreciation, and noteholders suffered heavily from bank failures. Thus, from the nation's beginning until the Civil War, the hand-to-hand currency consisted partly of coin and good bank notes, but more largely of a motley lot of depreciated state bank issues.

With the establishment of the national-banking system and the tax on issues of state banks, the only type of paper money supplied by the banks for fifty years was the bond-secured national bank note. Then came the Federal Reserve currency in 1914, which soon overshadowed the national bank notes in importance, but which did not entirely displace them until 1935.

III. BASIC PRINCIPLES OF NOTE ISSUE

1. THE CURRENCY PRINCIPLE *vs.* THE BANKING PRINCIPLE

In any consideration of the principles of bank-note issue first place should be given to the great theoretical controversy that arose in England before the adoption of the Bank Charter Act of 1844, and persists even today in modified form. One school of thought, led by Lord Overstone and Sir Robert Peel, espoused what is known as the "currency principle" of note issue while the opposing group, followers of David Ricardo, supported the "banking principle." In discussing these theories, it must be remembered that they arose in a period when bank credit was largely extended in the form of notes rather than deposits. The rise of the bank-check habit in Anglo-Saxon countries now requires that the theories be given a different application and another interpretation.

Both groups were in agreement upon the desirability of the automatic gold standard. There was no dispute, as there is today, over the proposition that a paper currency should vary in amount just as an exclusively metallic currency would vary under the same circumstances. The disagreement related to the set of conditions that would make certain a precise conformity between the movements of a convertible paper currency and a purely metallic money.

Lord Overstone and his followers insisted that there was a serious danger of overissuance of bank notes, even though they were strictly convertible into gold. They regarded excessive issues as one of the principal causes of speculative booms and depressions. They recognized that convertibility was an ultimate safeguard against excessive currency, but they held that a ruinous inflation or deflation might occur before the automatic readjustments could take place. For this reason, they advocated that the volume of notes should be restricted to the specie circulation which would have existed with a purely metallic money. In other words, bank notes, in their view, should be essentially gold certificates. This would make certain that an export of gold would cause a corresponding contraction of domestic currency and thus tend to correct the adverse trade balance by producing lower prices. It would also keep domestic prices in proper relation to world gold prices by causing the domestic circulation to expand by the amount of gold imports.

The advocates of the "banking principle," on the other hand, contended that as long as convertibility into specie was strictly maintained there could be no overissue of notes. There was little chance, so they said, for excessive issues to get out in the first place; and even if temporary overissue should occur, the notes would be speedily returned to the issuer in order to avoid the payment of interest. In other words, they believed that a sufficient safeguard existed in the exercise of sound judgment by the individual banker, *i.e.*, in making only circulating-capital loans to firms of good credit standing, within the limits set by a conservative reserve position.

The Bank Charter Act of 1844 represented a triumph for Lord Overstone and his currency-principle followers. The Issue Department of the Bank of England was entirely separated from the Banking Department; and beyond a small fiduciary limit, notes could be issued only against the deposit of gold. Another example of the currency principle, although somewhat modified, was the prewar German Reichsbank which copied several features of the Bank of England. The Bank of France, on the other hand, was founded upon the banking principle; and with some modification, so was the Federal Reserve System. In the last half century the drift of banking and monetary practice has been definitely in the direction of greater credit and currency

elasticity; *i.e.*, under any strict interpretation, toward the banking principle.

Under modern conditions, however, these two early theories, if they are to have real meaning, must be broadened so as to encompass new developments. In those countries where deposits have come to dwarf bank notes in importance, the ideas must be applied to loan expansion taking the form of deposits. Check currency has become the active monetary element and notes have become passive. In those countries where deposits have become significant, though not dominant, the old notions must be extended to include deposits as well as notes.

Interpreting the two old principles broadly, the modern currency school is represented by those who believe that a strict and continuous control should be exercised over the volume of money supply (deposits and currency) in order to attain a definite monetary objective. This objective may be an effective gold standard, a stable price level, a stable wage level, or another one of several possible standards. But the distinguishing characteristic, which marks this group as lineal descendants of the currency group, is that they believe in close regulation of banking and the monetary supply. For the most part, they are naturally proponents of some version of the quantity theory of the value of money.

The modern banking school is represented by those who regard the primary function of banking as that of making sound working capital loans to business firms. In their view, as long as such loans are confined to legitimate short-term requirements and are not extended for investment or speculative purposes, regulation is unnecessary. With these conditions realized, a proper adjustment of monetary supply and the price system will automatically follow without direct interference. Regulation, so they believe, should be directed only to the qualitative end of restricting bank loans to "legitimate" purposes. Quite naturally, although not necessarily, this group does not believe in the so-called quantity theory of money. The opposing groups have been aptly designated by Lauchlin Currie as (1) those who hold to the Monetary Theory of Banking, and (2) those who adhere to the Commercial Loan Theory of Banking.¹

¹ See Lauchlin Currie, *The Supply and Control of Money in the United States* (Cambridge, Harvard University Press, 1934), Ch. IV, for an able discussion of these two theories.

2. PARITY WITH THE MONETARY STANDARD

Bank-note currency should be so issued and regulated that it always circulates at par with the country's monetary standard. That is to say, it should never be at a discount, nor at a premium; but should always have identical purchasing power with the monetary unit as defined by law in terms of some ultimate standard. For example, if the dollar is defined as $15\frac{5}{16}$ grains of gold, nine-tenths fine, then a one-dollar bank note should have the same command over goods in the market place as that quantity of gold. When bank notes, as in England 1925-1931, serve as standard money, a deviation in their value from that of the ultimate gold standard signals that the standard is no longer effective. Gold has gone to a premium or to a discount from its legal price in terms of the hand-to-hand money.

Before the World War a significant part of the monetary gold stock circulated in coin form or as gold certificates. Being full legal tender, and embodying or directly representing the monetary standard, this aristocratic element of the currency came to be known as "standard money." If a monetary system provides for such an exclusive class of standard money, then the principle of bank-note parity should be somewhat revised: The bank-note currency should always circulate at parity with standard money, which in turn should possess identical value with the ultimate standard. This revision obviously represents no change in substance, but just a special application of the same idea. It applies to the vanishing era when bank notes were put out by numerous independent banks and were not yet worthy of the status of standard money. Now, with the almost complete centralization of note issue in central banks, the tendency is to make them the sole paper currency, full legal tender, and standard money.

In the days when note issue was relatively more important and when a large number of commercial banks retained the privilege, various devices were used in order to safeguard the parity of bank notes. One was the system of making notes a prior lien on all assets of the issuing bank. This method was applied to the notes of the Bank of France, the national banks in the United States, the Canadian banks, and the Federal Reserve banks. Another device employed was that of setting aside specific high-grade assets as special security for note issue. Examples of this method are found in the Free Banking Law of

New York State in 1838, the Bank Charter Act of 1844 in England, the National Bank Act of 1864, and the Federal Reserve Act of 1913. A third method was the safety-fund system, whereby the note-issuing banks contributed to a fund which was used to prevent loss to noteholders of failed banks. Illustrations are afforded by the Safety-fund System of New York State, 1829, and the safety-fund of Canadian banks of issue.

Still another device was a government guarantee, which applied to the old national bank note, and now applies to the Federal Reserve note.

A final method was that of limiting in some way the volume of issue, both in aggregate and for individual banks. This limit might be a sum fixed by law as was true in France until 1928, in Germany before the War, and in the national banking system until 1875. It might be set in terms of another balance sheet item, usually capital stock, which was the case for the First and Second Banks of the United States, a majority of the state-chartered banks, the national banks, the prewar Reichsbank, and the Canadian banks. Or again, a rather elastic limit might be provided by the familiar method of requiring a minimum reserve of gold or lawful money.

All of the above methods have been primarily concerned with assuring *ultimate* parity or safety of bank notes. But experience has shown that this is not sufficient to provide for perfect parity at all times and places throughout the country. Even though the issuing bank may stand ready to redeem its notes when presented, the cost and trouble of redemption from distant points may cause depreciation. This was the case with respect to notes of New England country banks, it will be recalled, before establishment of the Suffolk system of redemption in 1824. The obvious remedy then for this distance-discount is the presence of adequate redemption facilities and the extension of legal-tender powers to bank notes.

Under the modern system of note issue by central banks, however, neither the problem of ultimate parity (safety) nor of immediate parity requires the employment of a complicated set of safeguards such as those just described. The all-important essential today is to place central-bank management in the most intelligent and experienced hands available. Given direction of this high caliber, safety of notes will take care of itself as an

incident to a wise general banking policy. The assets of the central bank under such conditions would consist of the ultimate gold and standard money reserves and obligations of the riskless type. Moreover, the security of notes would further be assured by a buffer of ample capital funds. Overissue would be prevented by an over-all credit policy, enforced mainly through the discount rate and open-market operations, and which would be directed toward definite monetary and banking objectives. There would be no real reason for definite reserve requirements set by law, and no necessity for making the notes a prior lien on central-bank assets.

Nor can the problem of immediate parity with standard money be called a live issue under modern conditions, since the central-bank notes are themselves usually given standard-money status. Parity with an underlying metallic standard can be easily maintained as long as the central bank stands ready to sell the metal for industrial and export purposes at a fixed price, and to buy it freely at the same price.

3. ELASTICITY

Assuming an intelligent policy of credit control, bank-note currency should possess elasticity; *i.e.*, the capacity to expand and contract with changing money requirements. The need for hand-to-hand money exhibits several types of variation. In the normal round of the days of the week, the weeks of the month, and the months of the year, sizable fluctuations occur. For example, larger pay roll and retail-trade volumes in the fall usually lead to a rise of about 8 per cent in the volume of money in circulation from the low point of the summer. Again, the different stages of the business cycle lead to an ebb and flow of requirements. Considerably less is needed, of course, during the depression phase when both prices and trade volumes have declined. But should the depression reach a panic stage, a general attempt to convert deposits into hand-to-hand money may occur as people seek a safe medium in which to store values. During a stage of prosperity with rising prices, more money is naturally required than during the depression (non-panic phase). Finally, long-term influences are constantly at work affecting the demand for hand-to-hand money. The growth of production and trade, assuming the same price level, requires a larger

amount. This demand, however, may be offset by a growth in the use of checks, or by a more efficient use of the money supply. The actual trend is thus a net result of opposing forces.

There is little disagreement that, within the limits of basic economic and monetary objectives, elasticity of hand-to-hand money is a highly desirable feature. Unless money supply is sensitively adjusted to the varying demands enumerated above, harmful consequences are most likely to follow. This fact is amply demonstrated by the unhappy experience of the United States with an inelastic currency under the old national banking system. Very briefly stated, the objections to such a currency are as follows:

During the usual periods of seasonal rise in money demand, bank reserves are drawn into circulation and are likely to be depleted until the banks are forced to adopt a restrictive loan policy. This means a high cost of credit to business, and actual refusal of many legitimate requests for loans. The result is lessened production, and an increase of business failures. The restrictive policy may also precipitate a price decline of securities and commodities speculatively held with borrowed funds.

In the stage of business prosperity elasticity of hand-to-hand currency should at least be sufficient to permit capacity production without hindrance. Otherwise, the consequences will be the same as for a normally active season, but they will be magnified by the additional influence of an active cycle. In the event of a banking panic, the currency should be sufficiently flexible to meet every attempt to transform deposits into currency. If people are convinced that this is possible, currency withdrawals will cease and the money will return to the banks. But if, owing to a rigid currency, people are not so convinced, the panic will swiftly spread until a general bank moratorium becomes unavoidable.

A final objection to an inelastic bank-note or government-note currency arises from the greater difficulty of protecting the country's gold reserve. In periods when less currency is needed, bank reserves are enlarged and money rates materially decline. Under these circumstances, a gold outflow may reach serious proportions before bank reserves are sufficiently drawn upon to produce the automatic check of high money rates. At the same time, if gold is allowed in circulation, the Treasury's gold position

is likely to be weakened by receiving less than the usual proportion of gold in tax payments. An elastic currency, on the other hand, would be retired in such periods without enlargement of bank reserves.

Those who intelligently oppose an elastic currency do so because of a lack of faith in the ability of monetary authorities to carry out a wise program of control. Obviously, the responsibilities of such authorities are vastly increased by an elastic currency which removes an automatic check to credit expansion. This group, therefore, would prefer to depend upon the automatic barrier to undue expansion provided by a rigid hand-to-hand money rather than to place our monetary destiny in the hands of a fallible human agency of control. In other words, they fear the harmful consequences of inelasticity enumerated above less than they fear the inability of a board of control to prevent inflation.

Unfortunately, our experience with credit control admittedly gives this group some basis for their position. It is believed, however, that the groping record of control in the past is not a sufficient reason for turning back to the certain serious disturbances that arise from an inelastic currency system. Instead, we should bend every effort toward a more careful definition of our economic and monetary objectives, and then strive to attain them ever more closely through accumulated experience with credit control. This path, particularly under a democratic system of government, has many pitfalls, but it is the only path forward.

4. OTHER PRINCIPLES AND RULES

Before ending this section, certain other less important principles or rules should be mentioned. First, when note issue is an exclusive privilege of the central bank, the notes should be made a full legal tender. This legal sanction adds to their prestige and general acceptability at par. Second, the notes should be issued in such a range and number of denominations as to serve the greatest public convenience. Third, an ample stock of the notes should be maintained so that business may not be hampered by a shortage of any denomination. And last, the notes should be engraved and printed in such manner as to make counterfeiting difficult as well as to meet high aesthetic standards.

CHAPTER XV

BANK-NOTE CURRENCY: FEDERAL RESERVE ISSUES

I. FEDERAL RESERVE NOTES

The Federal Reserve System has brought the bank-note currency of the country to an advanced stage of its evolution. Just before the Civil War, the currency consisted mainly of hundreds of different state bank issues that circulated at various degrees of depreciation. This unsatisfactory situation was remedied by the national banking system which provided a safe bank note that circulated at par throughout the country. But it remained for the Federal Reserve System to furnish a currency that not only circulates at par but also possesses the essential feature of elasticity.

1. PARITY

The provisions of the Federal Reserve Act furnish complete assurance of the *ultimate* parity or safety of Federal Reserve notes. In the first place, they are direct obligations of the United States. Strictly speaking, they are not bank notes at all, but Government notes. This provision of the act was a concession to William Jennings Bryan who believed that the Government should not delegate the note-issuing power, and whose support was necessary in order to secure passage of the act. In addition, the notes retain all the safeguards that were designed in the original form of the act to provide a safe bank note. They are secured by specific collateral lodged with the Federal Reserve agent. Such collateral is restricted to the best assets of the Reserve banks—gold certificates, eligible commercial paper and acceptances, and promissory notes of member banks secured by eligible assets.¹ Moreover, the Board of Governors may at any

¹ The Glass-Steagall act of February 27, 1932, made direct obligations of the United States eligible as security for Federal Reserve notes until March 3, 1935, with a possible extension by the President for another two years. An act of Congress, approved March 1, 1937, again extended the

time call upon a Reserve bank for additional collateral. But this is not all. The notes also have the status of a first lien on all the assets of the Reserve bank through which they were issued.

Nor is there any doubt concerning the constant immediate parity of Federal Reserve notes with standard money. Indeed, since the Resolution of Congress in 1933 which made all money in circulation full legal tender, they have practically been raised to the status of standard money. Each Reserve bank is required to keep a gold certificate reserve of at least 40 per cent of its notes in circulation. The notes are redeemable in lawful money on demand at the United States Treasury and at any Federal Reserve bank. Redemption at the Treasury is made from a gold certificate fund which each Reserve bank must maintain. The fund must be at least 5 per cent of the Federal Reserve notes against which the Federal Reserve agent does not hold gold certificates, but the Secretary of the Treasury may at his discretion require a larger fund.

Another provision of the act designed to maintain constant parity through frequent redemption prevents one Reserve bank from paying out the notes of another on penalty of a 10 per cent tax. As a result, each Reserve bank sorts out and returns the notes of the others for redemption as a part of the day's routine. Such redemption is effected through the Interdistrict Settlement Fund of gold certificates at Washington.

2. ELASTICITY

The Federal Reserve System has produced a large measure of elasticity in the total circulation of hand-to-hand money in two ways: (1) by creating a new mechanism for handling the currency; and (2) by furnishing a new elastic element in the form of the Federal Reserve note.

a. The New Mechanism

The initiative in currency expansion or contraction is taken by the public; never by the Reserve System except indirectly through general credit policy. As an illustration of the process, let us assume that the customers of a city bank need \$500,000

period until June 30, 1939. Large use of this emergency provision was made during the period, 1932-1935, and a few of the Reserve banks continued to make use of it throughout 1936.

additional cash because of the rush of retail trade during the week before Christmas. Accordingly, they check upon their accounts and take paper currency and small change in the proper denominations. In order to meet this demand the bank is obliged to turn to its Federal Reserve bank which is the cash storehouse of the district. The bank simply checks upon its reserve account and orders a shipment of cash. It specifies the amount of each denomination but beyond that it does not care whether the Reserve bank sends Federal Reserve notes, United States notes, silver certificates, or gold certificates. This decision rests with the Reserve bank.

Let us assume further that the bank has no excess reserve and does not wish to call loans or sell securities. In order to keep its reserve up to legal requirements, therefore, it borrows \$400,000 from the Reserve bank (assuming a 20 per cent reserve). At this point, the accounts of the member bank show a decrease of \$500,000 in Deposits, an increase of \$400,000 in Rediscounts, and a reduction of \$100,000 in Legal Reserve. On the Reserve bank statement the changes are an increase of \$400,000 in Bills Discounted, a reduction of \$100,000 in Member Bank Reserve, an increase of \$250,000 in Federal Reserve Notes in Circulation, and a decrease of \$250,000 in Other Cash (assuming that one-half of the cash is paid out of reserves).¹

We may also follow with profit the process by which this currency is retired from circulation in the weeks following the peak of Christmas trade. Finding themselves with an excessive supply of till money, the stores deposit cash with the bank. This immediately piles up an excess of vault cash which is promptly shipped to the Reserve bank, at the latter's expense, for credit in the legal reserve account. Insofar as the cash consists of the Reserve bank's own notes, its liability for notes in circulation is decreased, but to the extent that the cash is composed of other kinds of money, its reserves are enlarged.

The question here arises: What motives lead the member banks to return cash promptly to the Federal Reserve banks? Obviously, upon the strength of these motives depends the contractility of the currency. First, if the members are indebted to the Reserve banks, they send in any excess cash in order to save

¹ See the Federal Reserve bank statement on page 207 in order to trace the effect of these transactions.

interest by keeping that indebtedness at a minimum. But even if the members are not in debt, experience indicates that other motives are sufficiently strong. One of these is the fact that vault cash does not count as legal reserve, but only the reserve balance at the Reserve bank. Another is that the legal reserve account represents a more mobile and convenient form of reserve asset. By a check upon this account or by telegraphic transfer the purchase of securities or other payments may readily be made. Still another reason is the greater safety provided by the Reserve bank vaults. And finally, the Reserve banks facilitate the whole process by standing the charges of cash shipment.

Before the Federal Reserve System the store of cash not needed by business was held in thousands of separate commercial bank vaults. The chief cash custodians were the large city banks. Outlying banks deposited excess cash with them in dull seasons and called it out again as the public required more currency. As we have already seen, this arrangement embodied serious weaknesses associated with the rigid and scattered cash supply as well as with the failure of the great city banks to assume their full responsibility as reserve agents.¹

The fact that commercial banks now have an elastic supply of readily available cash greatly reduces the amount that they need for their own vaults. For example, New York City banks in the old days usually held more than 25 per cent of total deposits in vault cash, while today they seldom keep more than 0.5 per cent. The change is less striking for all national banks but is nevertheless very substantial: vault cash used to be between 12 and 15 per cent whereas now (1937) it is about 3 per cent of adjusted demand deposits.

For all the various hand-to-hand money services supplied free of charge to members and the Treasury, the Federal Reserve banks necessarily stand a considerable burden of expense. These services include the sorting, wrapping, storing, boxing, shipping, paying, and accounting for all kinds of money flowing in and out as well as supplying new issues of Federal Reserve notes. Between one-fourth and one-fifth of total Reserve bank costs, *i.e.*, between \$6,000,000 and \$9,000,000, are incurred for these purposes.

¹ See Chapter XI.

b. Elasticity of Federal Reserve Notes

In the foregoing illustration of how the Federal Reserve System provides elasticity of the total hand-to-hand money in circulation, we assumed that the Reserve bank held a sufficient stock of its own notes, or of other cash, to meet the request for currency by the member bank. This, however, is seldom the case in December when all members are making similar requests. We, therefore, must trace the process back one step further in order to show how the Reserve bank may replenish its stock of Federal Reserve notes.

Let us suppose then that the combined withdrawals of currency by members prompt the Federal Reserve Bank of New York to add \$50,000,000 to its stock of Federal Reserve notes. It makes a formal request for the notes to the Federal Reserve agent of the Bank,¹ and at the same time tenders the agent sufficient eligible collateral to cover the amount of the notes. One of the agent's principal duties has to do with note issue. He holds the pledged collateral in trust and in general supervises the issue and retirement of notes at his bank. He also keeps on hand a reasonable stock of unissued notes. It is very likely, therefore, that he can immediately issue the notes to the bank upon the pledge of collateral. This we shall assume to be the case. The Federal Reserve Bank of New York is then in position to meet additional requests for cash as they come in from its members.

The issue of such a large amount of notes, however, reduces the agent's supply below a safe working level. He therefore makes application to the Board of Governors for additional notes. It grants the application (usually a matter of routine) and orders the Comptroller of the Currency, who has charge of the central supply of such unissued notes, to ship the specified amount. This rebuilds the agent's stock of unissued notes up to a normal volume.

The next question concerning elasticity of Federal Reserve notes is that of the limits to expansion. Under existing law, the effective limit is set by the 40 per cent reserve requirement which

¹ It will be recalled that the Federal Reserve agent of each Federal Reserve bank is one of the Class C directors appointed by the Board of Governors. He is Chairman of the local board, and is the official representative of the Board of Governors at the Reserve bank.

permits a volume of notes in circulation up to two and one-half times the amount of gold certificate reserves. Theoretically at least, expansion may go beyond this point if the Board uses its power to suspend reserve requirements.¹ This, however, would bring into effect a graduated tax upon the amount of the reserve deficiency.² The Board of Governors also has other powers which may affect the note expansion limit. It may call upon the Reserve banks for additional collateral against notes; it may refuse to grant applications for the issue of more notes; and it may charge interest upon the part of Federal Reserve notes that is not secured by gold certificates in the hands of the Federal Reserve agents. In practice, no one of these powers has been employed. Rather, the Board has preferred to exert only an indirect influence over the demand for hand-to-hand money through its broad powers of credit control.

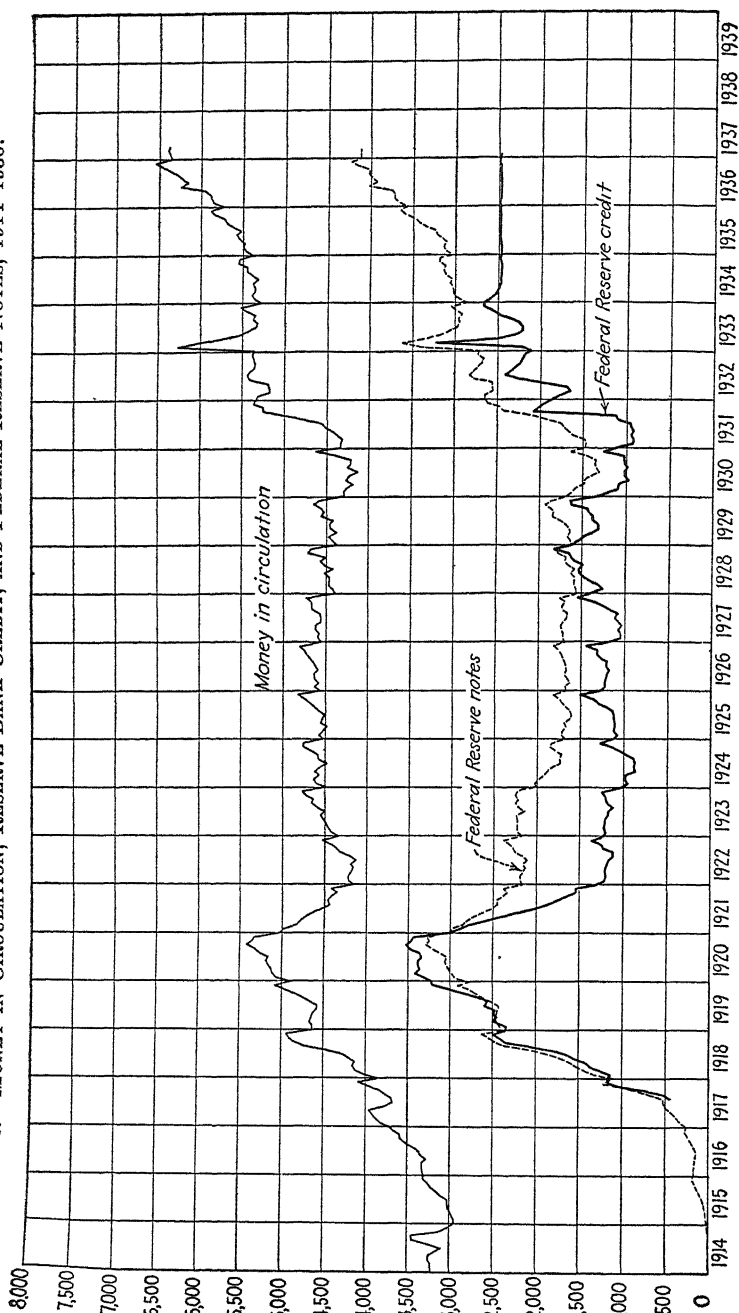
As far as an individual member bank is concerned, the only limit upon the amount of cash that may be paid out by a Federal Reserve bank is the latter's discretion in making advances upon acceptable assets.

There is no need to discuss at length the reverse process by which Federal Reserve notes are retired from circulation whenever a redundancy of currency occurs. The motives that prompt member banks to return such notes are precisely the same as those, just described, which operate with respect to all kinds of hand-to-hand money. A Reserve bank that desires to retire part of its notes may do so by depositing them with its Federal Reserve agent. This entitles it to possession of the collateral thereby released. Such retired notes are, if fit, then added to the agent's unissued stock and are subsequently reissued under the same conditions that apply to a new issue.

¹ Any reserve requirements of the act may be suspended by the Board for a period of 30 days with subsequent 15-day extensions.

² This tax amounts to not more than 1 per cent per annum upon the deficiency until the reserve falls to $32\frac{1}{2}$ per cent. As the reserve falls below $32\frac{1}{2}$ per cent the tax rises not less than $1\frac{1}{2}$ per cent for each $2\frac{1}{2}$ per cent decline, or fraction thereof, in the reserve ratio. The tax is to be paid by the Federal Reserve banks but their official discount rates must be raised by the amount of the tax rate. Although in both 1920 and 1933 the reserve ratio nearly reached the 40 per cent minimum, the tax has not thus far been applied. Its application was avoided in 1933, however, only by the bank moratorium.

CHART 6.—MONEY IN CIRCULATION, RESERVE BANK CREDIT, AND FEDERAL RESERVE NOTES, 1914-1936.



Based upon data from Annual Reports of Board of Governors of Federal Reserve System.

A study of Chart 6 reveals the actual character of Federal Reserve note elasticity as compared with total money in circulation. The regular seasonal rise from a summer low point to a peak in December is clearly evident, as are also the longer cyclical fluctuations. If the chart were able to show greater detail, there would likewise appear a rise of money demands during the last three days of the business week followed by a return flow of cash during the first three days. In addition, it would be apparent that currency needs increase at the middle of the month; and further that more cash is used over holidays such as Independence Day and Labor Day.¹ In all these fluctuations, part of the elasticity of total money arises from the inflow and outflow of reserve cash of the Reserve banks, and part of it results from the expansive and contractive features of Federal Reserve notes.

Another fact shown by the chart is that a large change in the volume of Federal Reserve notes occurs from time to time without a corresponding change in the total demand for hand-to-hand money. Such changes are the result of laws or currency policies which affect the amounts of other kinds of money. For example, during 1917 and 1918 gold was withdrawn from circulation and concentrated in the Reserve banks in order to meet the strain of financing the War. Federal Reserve notes were issued in place of the gold and also to meet rising total currency needs. Then in the period, 1923-1925, the opposite policy of paying gold certificates into circulation was adopted. This was done for the purpose of preventing large gold imports from entering the reserves of the Federal Reserve banks. An increase in circulation of gold certificates of about \$800,000,000 largely accounts for the decline of Federal Reserve notes in those years.

A still further illustration may be drawn from monetary developments of the last two or three years. Gold and gold certificates have been withdrawn from circulation, and the national bank notes are rapidly being retired. At the same time more silver certificates are being issued, although not in sufficient volume to offset the retirement of the other kinds of money. The net result is that more Federal Reserve notes have been

¹ See W. R. Burgess, *The Reserve Banks and the Money Market* (New York, Harper & Brothers, 1936), pp. 81-87, for a detailed study of currency fluctuations.

called into circulation to replace these retired elements as well as to meet a general rise in hand-to-hand money requirements.

It should be recognized that elasticity of Federal Reserve notes, arising merely from such changes in the composition of money, is not really significant from the viewpoint of total currency elasticity. Federal Reserve notes in these instances were not responding to the public demand for cash so much as they were merely adjusting themselves to arbitrary monetary changes effected by law or by Treasury or Federal Reserve policy. With the prospect that Federal Reserve notes may soon constitute 75 to 80 per cent of total paper currency in circulation, the correspondence between the two is very likely to be much closer in the future. This depends, however, upon a continuance of the policy of retaining gold certificates as reserves. In general, the correlation between the movements of Federal Reserve notes and total money in circulation is most likely to be close when cash reserves of the Reserve banks are low or are being conserved. But no matter what the make-up of hand-to-hand money, the really important requirement is that the total stock shall possess elasticity. Whether this feature derives from one component or from all components is relatively unimportant.

One other matter requiring discussion is the relation between the elasticity of Federal Reserve notes and the collateral that backs them. The framers of the original Federal Reserve Act intended that the collateral should consist only of rediscounted, short-term commercial paper. According to their plan, this paper would flow to the Reserve banks in periods of active business and serve as a basis for additional note issue. Then in periods of dull trade, seasonal or cyclical, when less currency is needed, rediscounts would be repaid and the notes would of necessity be retired. Thus, in their minds, elasticity was linked to, and was to be enforced by, the pledged collateral.

In practice, however, such a rigid application of the commercial-asset theory has never been applied, and, if it had been, it could not have worked satisfactorily. From the beginning the Reserve banks used their power to substitute gold and gold certificates for commercial collateral as a means of utilizing a large part of their reserves for the purpose. Then in June, 1917, the act was amended so as to make this practice specifically lawful, and also to permit the use of promissory notes of member banks secured

by United States obligations, or other eligible assets, as backing for Federal Reserve notes. Since these practices continued after the war, there has never been a time when the original theory was actually tested, or when the collateral was the real determinant of elasticity. The emergency use during the depression of direct obligations of the United States as collateral strayed even further from the original conception.

A comparison, moreover, of the volume of Reserve bank rediscounts with hand-to-hand money demands shows that the original theory was quite unworkable. It assumed a far closer correspondence between the two factors than in fact exists in Anglo-Saxon countries where the principal medium of payment is deposit currency. There is a rough correspondence, it is true, but not a sufficiently exact or dependable relationship to be useful as a currency regulator. Such influences as gold movements, volume of Treasury currency, Treasury cash and deposits at the Reserve banks, open-market operations of the Federal Reserve System, bank failures, bank service charges, and changes of monetary habits, all combine to complicate what appears on first view to be a simple and dependable relationship.

Furthermore, in a crisis such as 1932-1933, a rigid requirement for commercial paper collateral is most likely to prove awkward and hampering. A large number of banks may exhaust their supply of eligible paper so that they are no longer able to borrow Federal Reserve notes. It is also possible that such a requirement may prevent the Federal Reserve System from carrying out what they believe to be a wise credit policy. For example, the Glass-Steagall act of 1932, which permitted the use of direct United States obligations as collateral, was necessary before the System was free to cushion deflationary forces by its large open-market purchases.

3. STATISTICS OF FEDERAL RESERVE NOTES

In Table 14 are presented the Federal Reserve agents' reports upon note issue for 1929 and 1935, which appear in the *Annual Reports of the Board of Governors*. Similar statements, though in abridged form, are released for publication in newspapers each Friday (statement of preceding Wednesday), and also are to be found in the monthly *Federal Reserve Bulletin*.

A study of the table should contribute materially to a full understanding of the process of issuance and retirement of Federal Reserve notes. First, one should observe the substantial difference between notes received from the Comptroller of the Currency, the amount issued to the Reserve banks, and the volume in actual circulation. The agents keep a large stock of unissued notes on hand in order to be prepared for any emergency.

TABLE 14.—FEDERAL RESERVE AGENTS' REPORTS
(In millions of dollars)

Federal Reserve notes and collateral	Dec. 31, 1929	Dec. 31, 1935
Federal Reserve notes received from comptroller	3,644	6,762
Federal Reserve notes held by Federal Reserve agents.	1,218	2,715
Federal Reserve notes issued to Federal Reserve banks:		
Held by issuing Federal Reserve bank ..	517	338
Held by other Federal Reserve banks . . .	42	27
Held by United States Treasury	5	15
In circulation.	1,862	3,667
Total notes issued	2,427	4,047
Collateral held as security for Federal Reserve notes issued to Federal Reserve banks:		
Gold and gold certificates:*		
In vault	414	5
In gold fund—Board of Governors .	1,263	3,966
Total gold and gold certificates . . .	1,677	3,971
Eligible paper.....	970	3
U. S. Government securities . . . . .	.. ..	128
Total collateral held... ..	2,647	4,101
Collateral required as security	2,427	4,047
Collateral pledged in excess of notes issued .	221	54

SOURCE: *Annual Reports of Board of Governors*

* Since the Gold Reserve Act of January 31, 1934, all gold has been held by the Treasury so that the agents may now hold only gold certificates

A supply of several hundred millions is also held by the Reserve banks in readiness to meet new cash demands from member

banks. The notes issued by the agents, technically speaking, are "outstanding" while the amount outside the Reserve banks and the Treasury is "in circulation."¹ Second, there is a marked difference in the character of collateral lodged with the agents on the two dates. At the end of 1935 almost all of it consisted of gold certificates. There was only a trifling amount of eligible paper, and a few Reserve banks continued to make use of the emergency privilege of pledging United States securities. In contrast, nearly \$1,000,000,000 of eligible paper was held by the agents in 1929. Finally, it should be noticed that the Reserve banks follow the practice of leaving excess collateral with the agents. In this way, there is a minimum of delay in arranging for an additional issue of notes.

Another statistical report of significance is the reserve ratio of the Federal Reserve banks which is published at the foot of each weekly statement. The published ratio, however, is between reserves and combined deposit and note liabilities. One must make his own computation of the separate ratio for notes. For example, on November 4, 1936, the published ratio was 80.1 per cent while the ratio of gold-certificate reserves to notes was 209.5 per cent. Thus, the notes are now equivalent to gold certificates with a very comfortable margin to spare.

4. RELATION OF FEDERAL RESERVE NOTES TO THE EARNING ASSETS OF FEDERAL RESERVE BANKS

While Reserve bank credit may be considered with equal propriety from either side of the balance sheet, the term has come to refer to the earning assets of the Reserve banks; *i.e.*, the sum of bills discounted, acceptances, United States securities, and a few other minor items. In Chart 6, page 232, this series is shown in comparison with Federal Reserve notes and money in circulation for the period, 1914-1936. The chart reveals the existence of a close relation between Reserve bank credit and the other two series. When the demand for hand-to-hand money rises in the fall, member banks are usually obliged to borrow at

¹ The amount of Federal Reserve notes "in circulation" as given in the monthly report of the Treasury on "Kinds of Money in Circulation" is less than the item "Federal Reserve notes in actual circulation" appearing on the Federal Reserve banks' statement by the amount of such notes held by (a) the Treasury, and (b) other Federal Reserve banks.

the Reserve banks in order to withdraw cash. After the turn of the year, and during the summer, the return of currency to the banks permits a reduction in borrowing.

The most striking correspondence between currency demand and Reserve bank credit, however, occurred during the period, 1931-1933, when hoarding rose to a peak and then subsided after the bank moratorium. In order to meet cash withdrawals, members were forced to borrow heavily as well as to sell bills to the Reserve banks, and in addition the Reserve banks eased the situation by large purchases of United States securities.

Currency requirements are thus usually a major factor, and sometimes a dominant one, in calling Reserve bank credit into use. But, as we shall see later, such factors as gold movements, Treasury currency, Treasury cash and deposits at the Reserve banks, and member bank reserve balances are also responsible for the volume of Reserve bank credit.

5. DESIRABLE CHANGES RELATING TO FEDERAL RESERVE NOTES

Although Federal Reserve notes measure up to the standards of a perfect bank-note currency in all major respects, there are at least two ways in which the conditions of issue might be still further improved. First, there is no real purpose served by the pledge of specific collateral with the Federal Reserve agents. The fact that the notes are Government obligations as well as a first lien on Reserve bank assets is surely sufficient protection without the additional red tape of this requirement. Moreover, in 1932 this provision proved to be a definite obstacle to the Reserve System in pursuing what they believed to be a proper credit policy. Before they were free to ease deflationary pressure by large purchases of United States securities, the Glass-Steagall Act, which made such securities eligible collateral during the emergency, had to be rushed through Congress.

Another desirable change would be a lowering of the legal reserve requirement for Federal Reserve notes. The chief argument in favor of this step is that it would give the Reserve banks greater power to combat a major hoarding panic such as that of 1933 which closed the Reserve banks. Logically, it should be possible to convert the whole of demand deposits into hand-to-hand currency, if the public so desires, without a moratorium or a departure from the gold standard. Such procedure

would not be inflationary since there would be no change in the total means of payment. It would simply represent a change in the composition of the money supply. In order to make a wholesale conversion of this kind possible it would theoretically be necessary to lower the reserve requirement for notes to coincide with that applying to demand deposits of member banks. For practical purposes it would not be necessary to lower the requirement to that extent. A bold policy of paying out currency in a period of hoarding, combined with public knowledge that the Reserve banks possess large capacity to make such a conversion, would doubtless prevent the spread of public distrust in the banks. For this reason, a lowering of the reserve requirement from 40 per cent to perhaps about 20 per cent should be sufficient.

The chief objection to lowering the legal minimum reserve is the greater danger of inflation that comes from removing a check upon credit expansion. Those who have no faith in the future of credit control by the Board of Governors have good reason to oppose such a change. But with the prospect that the Reserve System with its enlarged powers will exert a greater influence than in the past, the only hope that undue inflation may be avoided appears to lie in the policies of the Board of Governors. If the Board courageously and wisely uses its powers to maintain the monetary standard and to promote sound credit and business conditions, there is little need for concern. On the other hand, if the Board should simply try to hold expansion within the limit set by the reserve ratio, the dangers of undue inflation upon the greatly increased gold reserve base are grave indeed. As a matter of fact, a logical accompaniment of the act's wide grant of discretionary power to the Board would be the exemption of the Reserve banks from all reserve requirements. Precedent for such a change is to be found in the Bank of France and the Banking Department of the Bank of England. In both cases, the reserve ratio has always been left entirely to the discretion of the central bank authorities.

II. FEDERAL RESERVE BANK NOTES

1. ORIGINAL PURPOSE

One of the aims of the Reserve System's founders was unification of the currency. In addition, therefore, to provision for the

Federal Reserve note, they contemplated retirement of the national bank notes then in circulation. The Federal Reserve bank note was designed merely to bridge the transition to eventual currency unification. Briefly stated, the plan finally incorporated in the act was as follows:

During the twenty-year period, December, 1915, to December, 1935, the Board of Governors was given power to require the Reserve banks to purchase at par 2 per cent United States bonds bearing the circulation privilege in an amount not exceeding \$25,000,000 per annum from national banks making application to the Secretary of the Treasury for the sale of such bonds. Upon purchase, the Reserve banks could either issue Federal Reserve bank notes under the same regulations as applied to the issuance of national bank notes, or they might exchange the 2 per cent bonds for United States 3 per cent securities without the circulation privilege.

The inadequacy of the plan is apparent on first view, since only \$500,000,000 of the \$725,000,000 of national bank notes could have been retired by 1935 even if the national banks had sold the maximum amount each year. As a matter of fact, no bonds were ever purchased through formal application by the national banks, but about \$75,000,000 of the 2 per cents were bought in the open market during the period, 1916-1918. The greater part of these was converted into 3 per cent Government obligations, so that the amount of Federal Reserve bank notes in circulation before midyear 1918 was only about \$8,000,000. This marked the peak use of the notes as a transitional currency, since the bond-retirement program was interrupted by the war and was not afterward resumed. The notes have, however, been employed for special purposes on two occasions which are briefly described in the next two sections.

2. ISSUANCE UNDER THE PITTMAN ACT

Principally for the purpose of aiding Great Britain to meet a financial emergency in India, the Pittman Act was passed and approved April 23, 1918. It authorized the Secretary of the Treasury to melt and sell as bullion not over 350,000,000 standard silver dollars at a price not less than \$1 per fine ounce. Silver certificates were to be retired from circulation as the coin backing them was melted and sold. But since the certificates

supplied most of the \$1 and \$2 bills in circulation, it was also necessary to provide a substitute currency. In order to meet this need the Board of Governors was authorized to require the Reserve banks to issue Federal Reserve bank notes in an amount not exceeding the silver dollars melted and sold. Issues of such notes were to be secured by short-term Government obligations deposited with the Treasury.

In all, 260,121,554 silver dollars were melted and sold, and \$259,375,000 of Federal Reserve bank notes were issued to the Reserve banks by the end of 1919, principally in \$1 and \$2 denominations. Unfortunately the act also provided for repurchase and recoinage of the silver. The Federal Reserve bank notes were to be retired as silver certificates were issued to take their place. By the end of 1923, this repurchase program was completed, and only a negligible amount of Federal Reserve bank notes remained in circulation until the next occasion for their emergency use in 1933. Thus ended an opportunity to dispose of the useless stock of monetary silver at a good price, and at the same time to make a desirable simplification of the currency.

3. EMERGENCY USE IN 1933

At the time of the banking crisis and moratorium in March, 1933, it was thought best to provide an emergency currency that might be paid out if withdrawals should continue after reopening the banks. Accordingly, the Emergency Banking Act of March 9, 1933, included provisions which adapted the Federal Reserve bank note to this purpose. The Reserve banks were authorized to deposit with the Secretary of the Treasury, (a) United States securities, or (b) commercial paper acquired under the Federal Reserve Act, in return for which they might receive Federal Reserve bank notes from the Comptroller of the Currency. Against the former class of security, such notes might be issued up to 100 per cent of face value, but against commercial paper, their issue was restricted to 90 per cent of the value of the pledged collateral. The notes were redeemable in lawful money, but not in gold, at the Treasury or at the bank of issue. They were given the same legal-tender feature as national bank notes, and in June, 1933, were, along with all other forms of hand-to-hand money, made a full legal tender by a resolution

of Congress. Thus, emergency arrangements were made whereby any conceivable public demand for currency might be met upon reopening the banks.

But as most informed persons expected, the people did not want hand-to-hand money when they became convinced that it was available. The return of confidence brought a heavy inflow of hoarded money from the moment the banks were reopened. Consequently, there was no actual need for the new currency. For some reason, however—presumably as a demonstration of its availability—some was issued until the end of the year, when it reached a maximum of \$208,000,000. Since then, the notes have been gradually retired as they become unfit for circulation.¹ The power of the Reserve banks to issue these notes expires when the President declares the emergency at an end.

III. RETIREMENT OF THE NATIONAL BANK NOTES

An effective plan for the retirement of national bank notes was finally announced by the Treasury Department on March 9, 1935. It came as a pleasant surprise to those who had long hoped that this desirable change might be made, but who had almost despaired of its occurrence, especially after the emergency provision for further expansion of the notes contained in the Home Loan Bank Act of July, 1932. A call for redemption of all the 2 per cent bonds bearing the circulation privilege, amounting to \$674,625,630, was made on or before August 1, 1935. National banks discharged their liability for the notes by this date either through direct payment to the Treasury or by offset against their pledged bonds and the 5 per cent redemption fund. For the purpose of redemption of the bonds, the Treasury earmarked \$646,000,000 of the gold profit from dollar devaluation. This was deposited from time to time with the Reserve banks in the form of gold certificates. The Government then checked against the deposit to meet bond redemptions and for other purposes.

This move reduced the paper currency of the country to three kinds: Federal Reserve notes, United States notes, and silver certificates. National bank notes, Federal Reserve bank notes,

¹ The Federal Reserve banks discharged their liability for the outstanding amount of Federal Reserve bank notes in March, 1935, by the deposit of lawful money with the United States Treasury.

gold certificates, and Treasury notes of 1890 are all in process of retirement as they return from circulation.¹

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¹ For a fuller description of the plan for retirement of national bank notes, see the *Federal Reserve Bulletin*, April, 1935, pp. 202–203; July, 1935, pp. 415–416.

CHAPTER XVI

BANK DEPOSITS

Bank deposits probably represent the most influential factor in the whole financial system. They constitute not only the greatest part of circulating money supply but also an important form of investment. In the United States the circulating deposits are normally about five-sixths of total circulating money, and approximately 90 per cent of all payments are made by means of checks drawn upon deposit accounts. These figures, however, are representative of the situation for only about the last twenty-five years. For while a steady replacement of hand-to-hand currency by deposits occurred throughout the nineteenth century, it was not until about 1858 that their amount exceeded that of bank notes.

Like money in general, demand deposits meet the need of individuals, business firms, and others for a reserve of ready purchasing power to bridge the gap between the receipt of income and its expenditure. For example, a salaried worker may deposit his pay check of \$400 at the beginning of each month. Then as expenditures are made during the month he may draw perhaps twenty or more checks until his balance is nearly depleted by the next pay day. A similar example of the need for such a reserve might be given for a business firm or bank.

I. CLASSIFICATION OF DEPOSITS

Bank deposits may be significantly classified in several ways depending upon the purpose to be served. Such classification may be made upon any one of the following bases: (1) time until maturity; (2) technical form of the deposit, *e.g.*, open account or certificate; (3) type of depositor, such as (a) individuals, bankers, governmental units, etc., and (b) consumers or types of producers; (4) banks holding the accounts, by type, size, or location; (5) monetary supply or a form of investment; (6) size of accounts;

and (7) rate of turnover. Still other bases, as well as more detailed subdivision, may of course be essential for particular purposes.¹

1. LEGAL DEFINITIONS

The most widely used classification of all is that based upon the definitions of the Board of Governors. These may best be discussed with reference to Table 15 which shows a detailed statement of deposits for all insured banks in the United States.

"Demand deposits" are defined by the Board as those which the depositor has a right to withdraw within thirty days. In practice, all demand deposits, except a small fraction represented by certificates of deposit, are contractually withdrawable immediately upon demand as the name implies. The bulk of such deposits is owned by individuals and business firms, but a substantial amount is also held for the account of governmental units.

"Interbank deposits" are also withdrawable upon demand for the most part, and are therefore logically classified as demand deposits. However, in view of their different character they are often, as in the table, reported in a separate category.

"Time deposits" are defined as those which by contract are not withdrawable until the expiration of thirty or more days' notice. The greatest part of these, it will be observed, is evidenced by savings passbooks. This division is technically known as "savings deposits" which are principally small accounts of individuals. In fact, "time deposits" of profit-making enterprises cannot be classified as "savings deposits." "Savings deposits" are not lawfully payable to any person other than the depositor himself. An entry is ordinarily made in the passbook at the time of each withdrawal of funds, but a depositor may also take out funds without presentation of the passbook provided the entry is made as soon as practicable. While banks have the right to require 30 or more days' notice before paying out "sav-

¹ Since their nature is entirely different, special deposits of jewelry, plate, securities, etc., for safekeeping in a bank vault are not included in the above classification. The bank is obliged to safeguard and return the identical articles, and the legal relation between the depositor and the bank is that of bailor and bailee. In the case of regular deposits, however, the money loses its identity and becomes the property of the bank. The legal relationship is simply that of debtor and creditor.

ings deposits," the usual practice is to pay them upon demand. Banks must, however, treat all of their savings depositors alike in this respect.

TABLE 15.—CLASSIFICATION OF DEPOSITS OF 14,059 INSURED COMMERCIAL BANKS, JUNE 30, 1936
(In millions of dollars)

Demand deposits:	
Individuals, partnerships, and corporations	21,464
U. S. Government	1,106
States and their subdivisions	2,885
Cash letters of credit, certified, officers', and travelers' checks, and amounts due to Federal Reserve banks	832
Total demand deposits*.	<u>26,288</u>
Interbank deposits:†	
Domestic banks.	6,233
Foreign banks.....	475
Total interbank deposits	<u>6,708</u>
Time deposits:*	
Evidenced by savings passbooks.. . . .	10,933
Certificates of deposit.	1,335
Open accounts	637
Christmas savings and similar accounts	100
Postal savings.	196
States and their subdivisions	429
Total time deposits*	<u>13,630</u>
Total deposits...	<u>46,626</u>

SOURCE: Federal Deposit Insurance Corporation, *Report 5*, p 5 These banks hold about 97 per cent of the total deposits of all commercial banks in the United States Savings banks, however, which are not insured by the FDIC, hold some \$10,000,000,000 of savings deposits.

* Exclusive of interbank deposits

† Demand deposits except for about \$160,000,000 of time deposits

The other subdivisions of "time deposits" are far less important, but it is nevertheless desirable to consider their form and character. "Time certificates of deposit" are those that are evidenced by negotiable or nonnegotiable instruments which provide that a specified sum is payable after the expiration of thirty or more days, or after at least this period of notice. The next item, "time deposits, open account" is defined by the Board as "a deposit other than a 'time certificate of deposit' or a 'savings deposit,' with respect to which there is in force a

written contract with the depositor that neither the whole nor any part of such deposit may be withdrawn, by check or otherwise, prior to the date of maturity, which shall be not less than thirty days after the date of the deposit, or prior to the expiration of the period of notice which must be given by the depositor in writing not less than 30 days in advance of withdrawal."¹ Although "Christmas savings, and similar accounts," owing to their different nature, are reported as a separate item, the Board includes them in the "open account" category.

There is considerable variation among banks of different size and location regarding the forms of "time deposit." The "time certificate of deposit" is relatively more important in the smaller banks of the Middle West. For example, in the country national banks of Nebraska and Kansas, the amount of such certificates exceeds "savings deposits," while in several other states of that section certificates are nearly as important. "Time deposits, open account," on the other hand, are used more extensively in the cities than are "time certificates." Both of these forms, in general, represent time deposits of business enterprises. Such accounts increased greatly during the depression as corporations shifted idle demand deposits to a form that would earn a larger return. While wealthy individuals also use these forms, most individuals use the ordinary passbook "savings deposit."

2. MONETARY SUPPLY OR A FORM OF INVESTMENT

For any statistical analysis of the behavior of the monetary circulation, it is necessary to exclude those deposits which are merely a form of investment. Under present regulations all "time deposits" may be placed in the latter category without serious error. An indeterminable part, however, of "time certificates" and "time deposits, open account" doubtless represents temporarily idle business funds that may more logically be treated as money. After deduction of bankers' deposits and adjustments for duplication, the remainder of "demand deposits" may be regarded as money. Probably the investment-type deposits in this category compensate roughly for the money-type deposits in the "time deposit" division. The currently reported

¹ Regulation D, Revised form effective January 1, 1936, Board of Governors. All of the foregoing definitions are based upon this recent regulation.

item, "adjusted demand deposits," represents the money-deposits of member banks with the exception that United States Government deposits should also be included.

3. CONSUMER AND BUSINESS DEPOSITS

In many theoretical studies, especially those relating to the monetary phases of the business cycle, a separation of consumers' demand deposits from those of business firms would be significant. Such a classification is not actually available and, if continuously reported, would involve a large amount of clerical labor—perhaps more than its theoretical value would justify.

TABLE 16.—PERCENTAGE DISTRIBUTION OF LARGE DEMAND DEPOSITS BY ECONOMIC GROUPS

Groups	Oct. 25, 1933	Nov. 1, 1935
Manufacturing and mining	36.9	35.9
Public utilities.	10.4	10.0
Railroads and shipping.....	7.6	7.7
Trade and service	6.4	5.2
Total industry, commerce, and trade	61.3	58.8
Insurance, real estate, and securities.	23.3	21.9
Individuals and personal holding companies	7.1	6.8
Banks' own trust departments.....	3.5	8.1
Total financial.	33.9	36.8
Foreign.	0.6	1.0
All other.....	4.2	3.4
Total.	100.0	100.0

SOURCE Quoted from *Federal Reserve Bulletin*, September, 1936, p. 698.

A recent study of the Board, however, has made available for the first time comprehensive figures on the distribution of demand deposits among various economic groups. This distribution, shown in Table 16, is based upon 9,188 deposit accounts of over \$100,000 in 98 large member banks and represents about

28 per cent of total demand deposits of business firms and individuals. Thus, while its representativeness may be questioned, it is nevertheless of great interest. The groups classified as "industry, commerce, and trade," it should be noticed, own about 60 per cent of demand deposits, while those placed in the "financial" division have a little more than one-third.

4. SIZE OF ACCOUNTS

Another useful study of the Board in connection with deposit insurance classifies member bank deposits by size of account (see Table 17). One should observe, in particular, that the

TABLE 17.—LICENSED MEMBER BANKS (5,500 BANKS)—NUMBER OF DEPOSIT ACCOUNTS, BY SIZE OF ACCOUNT, MAY 13, 1933

Size group	Number of accounts	Amount of deposits (000 omitted)	Percentage distribution		Average size of accounts
			Number of accounts, per cent	Total deposits, per cent	
Deposit accounts of:					
\$2,500 or less	29,482,384	\$5,580,327	96 5	23 7	\$ 189
\$2,501 to \$5,000	569,833	1,912,132	1 9	8 1	3,356
\$5,001 to \$10,000	269,903	1,840,791	0 9	7 8	6,820
\$10,001 to \$50,000	187,115	3,720,403	0 6	15 8	19,883
Over \$50,000.	46,870	10,488,654	0 1	44 6	223,782
Total	30,556,105	\$23,542,307	100 0	100 0	\$ 770

SOURCE: Quoted from *Federal Reserve Bulletin*, July, 1933, p 414.

group of accounts of \$5,000 or less in size, represents about 98 per cent of the number of accounts but only 32 per cent of the total amount of deposits; also that the group over \$10,000 in size represents less than 1 per cent of the number of accounts, but over 60 per cent of deposits.

II. THE CREATION OF DEMAND DEPOSITS

From the standpoint of the banking system as a whole, most of existing demand deposits (excluding interbank deposits) have been created by additions to bank loans and investments. The proceeds of new loans are usually credited to the borrowers' accounts, and the resulting deposits then remain in existence

until snuffed out by the subsequent repayment of loans or by the sale of bank investments. Similarly, when the banks are expanding their holdings of investment securities, deposits increase by a roughly equivalent amount. That is, deposit credit may be given directly in payment for securities; or, deposits may increase indirectly as soon as the sellers of securities deposit the checks received in payment—drawn, we may assume, upon the Federal Reserve banks.

Another part of existing deposits, much smaller in amount, was created gradually as the community entrusted reserve money to the banks and received in return bank notes or deposit credit as substitute mediums of payment. Then as the habit of using checks grew, bank notes were shifted into deposits. This substitution of deposits for bank notes, however, is not to be regarded as an independent source of deposits. Except insofar as the notes are thought of as being covered by an equivalent amount of reserve money, they were themselves originally created by the expansion of bank loans and investments.

Thus, for the banking system as a whole, demand deposits arise basically in only two ways: (1) expansion of bank loans and investments, and (2) deposit of hand-to-hand currency, or of other reserve money released by the central bank or the Government.

The position of the individual bank is somewhat different. From day to day its deposits may increase as a result of: (1) cash deposits, (2) deposits of checks and other claims to cash, and (3) expansion of its loans and investments for which payment is made by giving deposit credit. But a lasting increase of its deposits is most likely to occur only in the second way, as it gains deposits from other banks. What it gains in cash deposits in one day, week, or month is liable to be withdrawn presently when currency needs revive. Neither can it expect to retain for long the deposits that it has created by making new loans. All or most of such deposits are shortly checked away in payment of the debts which prompted the borrowing. In this latter respect, the position of the individual bank stands out in marked contrast to that of the whole banking system. For, while a single bank is unable to increase its own deposits appreciably by making new loans and investments, the deposits of the banking system largely originate in this manner.

This contrast between the individual bank and the whole system should also be kept in mind in the use of the terms, "primary deposits" and "derivative deposits." For the single bank the term "primary deposits" means deposits of cash or checks and cash claims upon other banks. Deposits growing out of expansion of its own loans and investments are usually called "derivative deposits." But for the whole banking system the bulk of all deposits are "derivative," as we have seen, from loans and investments; and "primary deposits" consist only of cash and reserve money.

III. MOVEMENTS AND RELATIONSHIPS OF DEPOSITS

One of the interesting features of deposits is their behavior in relation to certain other economic and financial factors. Some of these relationships are considered in the present section; certain others can be more logically and conveniently considered elsewhere.

1. GROWTH OF TIME DEPOSITS

The savings departments of commercial banks have grown so rapidly since the passage of the Federal Reserve Act that they now hold more time deposits than the savings banks proper. Between 1914 and 1928, the time deposits of member banks rose from \$1,200,000,000 to \$13,500,000,000—an eleven-fold increase. This represented a large relative gain on demand deposits which during the same period increased fourfold. These trends since 1921 may be seen on Chart 7.

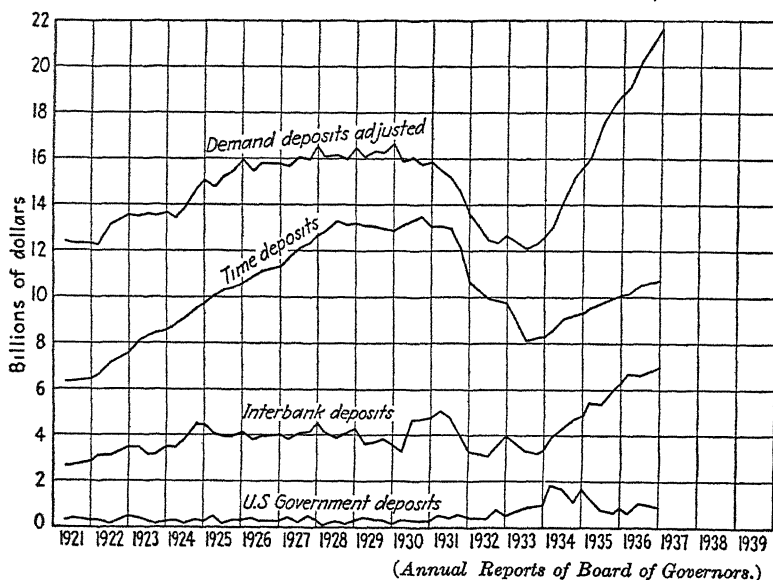
This vast growth of time deposits was made possible by certain provisions of the Federal Reserve Act. Under the old system, real-estate loans, the largest outlet for time deposits, were prohibited; and in addition no distinction between time and demand deposits was made in legal reserve requirements. These handicaps, which prevented national banks from competing for such business with state-chartered institutions, were both largely removed by the original Federal Reserve Act and its subsequent amendments.

2. CYCLICAL AND SEASONAL FLUCTUATIONS

Chart 7 also shows that deposits move in cycles and vary somewhat with the seasons. The seasonal variation, however, is

so small that it is of little significance. In an average year demand deposits are about 2 per cent larger in the last quarter than in the first quarter. With the exception of a dip in August, they tend to rise from a low point reached in February until the end of the year. Time deposits are free from regular seasonal fluctuations.

CHART 7.—DEPOSITS OF ALL MEMBER BANKS ON CALL DATES, 1921–1936



During the course of the business cycle, demand deposits (adjusted) follow a pattern which is roughly similar in major cycles to that of general economic activity. That is, they rise in boom periods and decline in depression periods. As a rule, however, their changes occur several months, and sometimes more than a year, after large changes in the volume of production. This lag is to be expected in view of their close dependence on the volume of total bank loans and investments which for various reasons exhibit a similar lag behind business activity.

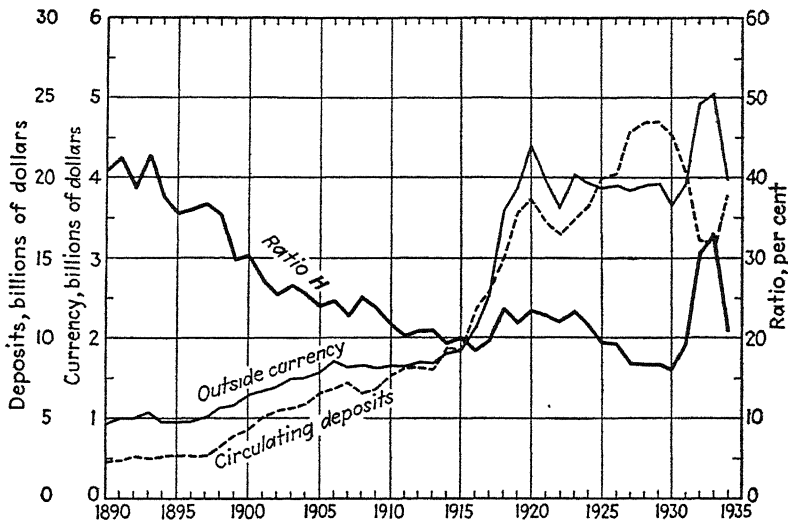
Until the banking crisis accompanying the great depression, time deposits followed their upward trend almost impervious to cyclical fluctuations of business. For example, the time deposits of member banks rose steadily throughout the depression of 1920–1922. But during the period, 1931–1933, we

learned that our previous assumptions concerning the permanency of such deposits were largely illusory. The breakdown of public confidence in the banks, combined with withdrawals to provide for the unemployed, resulted in a 40 per cent decline in less than two years (see Chart 7).¹

3. RELATION OF DEMAND DEPOSITS TO HAND-TO-HAND CURRENCY

A recent study by Professor J. W. Angell has added substantially to our knowledge regarding the relation between

CHART 8.—OUTSIDE CURRENCY AND CIRCULATING DEPOSITS, ANNUALLY: 1890-1934.



(From J. W. Angell, *The Behavior of Money*.)

circulating deposit money and hand-to-hand money. In Chart 8 the series, "circulating deposits," represents all demand deposits in the United States, adjusted for duplications, with the exception of interbank deposits.² "Outside currency" represents the hand-to-hand money outside the United States Treasury, the

¹ See J. W. Angell, *The Behavior of Money* (New York, McGraw-Hill Book Company, Inc., 1936), pp. 49-61, for an illuminating statistical study of the seasonal and cyclical movements of demand deposits.

² It includes deposits of the United States Government and other public deposits.

Federal Reserve banks, and the commercial banks. In other words, taken together the two series constitute the effective money supply of the country.

In general, the courses of the two series show considerable similarity, although there are notable exceptions in the periods, 1908-1911, 1922-1928, and 1931-1934. In the first two of these, deposits rose rapidly while "outside currency" remained nearly the same in amount. The last exception is explained by the abnormal hoarding of currency.

Large significance also attaches to the currency-deposits ratio. Since 1890 it shows a continuation of the gradual downward drift that has been underway since the beginning of the nineteenth century. "Outside currency" has fallen from about 40 per cent of "circulating deposits" in 1890 to a normal ratio of perhaps 16 per cent at present. It is likely that this downward trend will continue some distance further, although at a less rapid rate. The shorter variations of the ratio also make invalid the common assumption that for all practical purposes it may be regarded as constant.

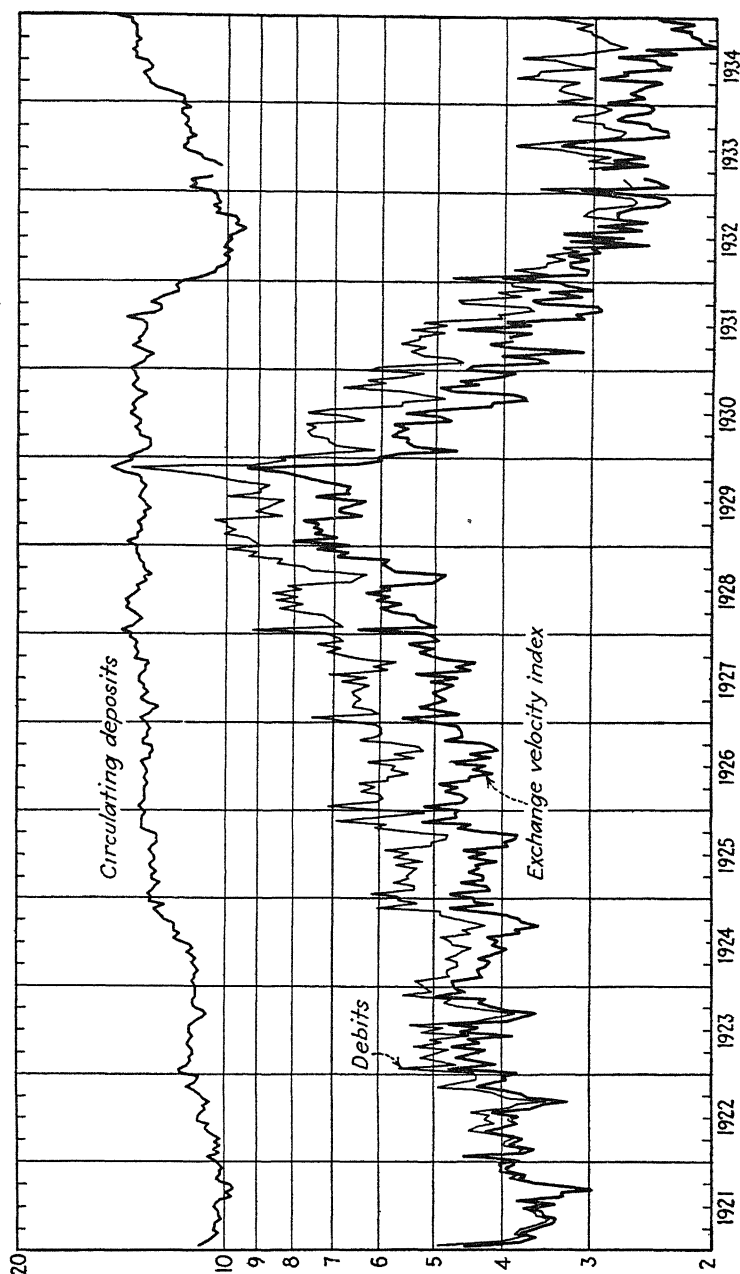
While we cannot discuss the problem further at this point, it should at least be observed that changes in the currency-deposits ratio have an important bearing on the problem of credit control because of their effect upon the potential limits of bank credit expansion.

4. RATE OF TURNOVER OF DEPOSITS

The rate of turnover, or exchange velocity, of deposits may be defined as the number of times during a given time period, say one year, that the average deposit dollar is transferred by check. This rate may be measured by simply dividing the total of checks drawn (bank debits) by the average amount of deposits during the period. If all payments were made by check, it is obvious that "bank debits" would represent the amount of all money-using transactions and that this amount in turn would be the product of the amount of deposits and their exchange velocity. We shall here consider only "circulating deposits"; not "time deposits" or "bankers' deposits" since, as before stated, neither one can logically be included in the effective money supply.

Professor Angell's valuable study also makes a contribution to our knowledge of this question, and one of his charts is repro-

CHART 9.—DEBITS, CIRCULATING DEPOSITS, AND EXCHANGE-VELOCITY INDEX FOR 141 CITIES, SEMI-MONTHLY: 1921-1934



(From J. W. Angell, *The Behavior of Money*.)

duced here, therefore, as Chart 9. It shows the rates of change (ratio scale) of all "circulating deposits" in the country as compared with "bank debits" for 141 leading cities¹ and his own index of exchange velocity of "circulating deposits" for these cities. The index is stated in terms of annual turnover but must, according to his estimates, be reduced by 25 per cent for 1921-1932 and 11 per cent for 1933-1934 in order to indicate the *actual* rate of annual turnover. This adjustment would not, of course, alter the pattern of the curve on a ratio chart.

While it is impossible to give a full interpretation of the chart, attention is called to several important facts that it brings out. In the first place, deposits fluctuate little as compared with the wide variations of both total payments by check (debits) and exchange velocity. Stated differently, changes in the volume of business and financial activity are reflected largely by alterations in the activity of deposits rather than by changes in their amount. In fact, the exchange-velocity index for the 140 cities (excluding New York City) is itself usually a good index of production and wholesale trade activity; and the velocity index for New York City reflects pretty faithfully the volume of financial activity.

Second, there is evidently a regularly recurring seasonal variation in deposit velocity, dominated by a similar movement of debits. Before the depression, velocity reached a peak, about 19 per cent above average, during the first half of January. This was followed by a sharp decline to just above the normal level which was held until mid-July when another sharp drop occurred, carrying the index down to about 16 per cent below average at the end of August. After this an increase began which reached a secondary peak in early November. Since the depression the seasonals appear to have shifted somewhat but the change cannot accurately be measured until more normal conditions emerge.

Professor Angell likewise finds an intramonth cycle in deposit velocity which naturally reflects the community's habits of payment. This cycle reaches a peak at the end and beginning of each month with a secondary peak at midmonth. The low point is reached during the second week of the month.

¹ About 85 per cent of total bank debits.

Last, it should be observed that in normal years the average circulating-deposit dollar turns over between 30 and 35 times per year. There is, however, considerable variation in this rate depending mainly upon the nature of the underlying business which the deposits represent. In New York City, for example, the annual rate normally ranges between 40 and 50 times per year, while in the group of 140 other cities, it is in the 23 to 28 range. Moreover, as a general rule, the rate in the smaller cities is lower than in the larger cities.¹

IV. INTERBANK DEPOSITS

Interbank deposits are variously referred to as "bankers' balances," "bankers' deposits," "due to banks," and "due from banks." No matter what their designation, however, they mean simply the deposit accounts of banks with other banks. "Due to banks," of course, refers to the liability of the group of banks that *holds* the deposits while "due from banks" refers to the asset of the group that *maintains* such deposits. There is necessarily an identity between the aggregates of the two latter items for all banks in the country if foreign balances be excluded.

While strictly speaking the legal reserve balances held by the Federal Reserve banks are interbank deposits, we shall not classify them as such in the present section in view of their peculiar nature. During the 1920's the legal reserves of member banks were in the vicinity of 60 per cent of their "due to banks," but under present abnormal conditions the two items are nearly equal in amount.

For the most part, interbank deposits are utilized only in connection with payments and settlements among the banks themselves. It is for this reason that we have previously excluded them as an element of money supply.

1. REASONS FOR EXISTENCE

Correspondent banking relationships, of which interbank deposits serve as a rough measure, are one of the distinctive features of a unit banking system. Even during the period of the First Bank of the United States, outlying state-chartered banks

¹ It is suggested that the reader who desires a more complete treatment of deposit turnover consult J. W. Angell, *op. cit.*, Chs. IV, V.

maintained deposits with banks in Philadelphia, New York City, and Boston. At that time such deposits were utilized principally in connection with the sale of domestic and foreign exchange, interbank settlements, and bank-note redemption. As the country developed and the number of banks multiplied, a closely woven network of correspondent bank relationships came into existence for the purpose of transacting the necessarily large volume of interbank business. These arrangements were perpetuated and encouraged by the reserve provisions of the National Bank Act, and to a large extent became a substitute, although a poor one, for formal central banking. While they have been considerably modified by the establishment of the Federal Reserve System, they remain today one of the distinguishing marks of the unit banking system of the United States.

The growing importance of New York City as a financial center gradually established it as the principal focal point of the correspondent system. Out of the New York money market thousands of these connecting lines radiate to all other banks in the country, including the smallest banks in remote sections. Connections with the smaller banks outside the New York district, however, are usually indirect, through banks of the other leading cities. For example, a small bank in Las Animas, Colorado, keeps a deposit with a correspondent bank in Denver. In turn, the Denver bank maintains a deposit in New York City as well as in Chicago and at certain other strategic points. Thus, the large city banks and the small country banks naturally occupy antithetical positions in this respect, with the reserve city banks occupying middle ground. To illustrate, at midyear 1936 member banks in New York City held domestic interbank deposits of \$2,390,000,000 but had balances of only \$114,000,000 with other domestic banks. For country banks, on the other hand, the respective figures were \$410,000,000 and \$1,727,000,000.

Under the national banking system, one of the reasons for the maintenance of balances in other banks was the fact that a large part¹ of legal reserves might be kept in such form. The reserve portion, however, represented only between one-third and one-half of the total bankers' balances maintained by national banks, so that there were evidently other important motives

¹ Country banks, 60 per cent; reserve city banks, 50 per cent.

operative. State-chartered banks likewise kept, and still keep, a large part of their reserves on deposit with legal reserve agents. But since 1917, member banks have had to keep all legal reserve on deposit at the Reserve banks. This factor, therefore, has now ceased to be operative except in connection with the nonmember banks. Of course, even though such balances no longer qualify as legal reserve, they still constitute "working reserve" for the individual bank.

Another reason for bankers' deposits was their use in connection with the clearance and collection of checks and certain noncash items. Various devices were employed, but the prevailing practice was for a city bank to credit and debit the accounts of its correspondents, respectively, with the claims for or against them. Settlements of local clearinghouse balances were also frequently made by checks drawn upon city banks. Some notion of the magnitude of this service is indicated by the fact that in 1914 the amount of exchanges at reporting clearinghouses was 164 billion dollars.¹ We need not repeat here, but should recall that balances for clearing purposes were far larger than necessary owing to exchange charges and the consequent roundabout routing of checks.

But since the creation by the Federal Reserve System of its efficient clearing and collection arrangements, this factor, like the first, has lost the major part of its importance. The great bulk of transit items is now handled through the Reserve System. Yet it remains true that a considerable amount of collections is made through correspondent channels. The Reserve banks refuse to handle checks drawn upon nonmember banks that do not remit at par, and many small member banks send transit items to their city correspondents who offer the inducement of immediate credit. Moreover, in many particular cases clearings and collections can still be handled more expeditiously through correspondent accounts.

A third and closely allied use made of bankers' balances was to furnish customers with domestic and foreign exchange. Before the personal check became so generally used, drafts upon banks in New York City, Chicago, or some other leading city were employed for distant domestic payments. Such drafts could be provided only by keeping deposits with city banks.

¹ *Annual Report of the Comptroller of the Currency*, 1935, p. 800.

Moreover, interior banks were obliged to maintain balances in New York in order to furnish their customers satisfactory foreign exchange services. The New York banks could then debit their accounts with foreign exchange sold and credit them with foreign bills purchased. While the use of bank drafts for domestic payments has declined relatively and is, therefore, of less significance, bankers' deposits continue to be used today for foreign exchange purposes much as they were before the Federal Reserve System.

Still a further purpose of bankers' deposits was that of entitling interior banks to borrow funds from their city correspondents. In general, a bank, like a business firm, was granted a line of credit amounting to about five times its average balance. Such loans were made, however, only upon a secured basis. Under the old system, most interior banks made it a point to keep their borrowing lines open, since the city banks were their only means of meeting demands beyond their own resources. But in a period of general emergency, such as 1907, they were doomed to disappointment, since it then became impossible to withdraw even their balances, let alone to borrow from city banks.

Although the rediscount powers of the Reserve banks have greatly diminished this motive, it is still operative to some extent. Nonmember banks continue to depend upon correspondents for loans, and a surprisingly large amount of borrowing from correspondents is done by member banks. The latter occurs more largely among the country banks and particularly in the southern states. It is accounted for principally by a lack of eligible or acceptable paper but also in some degree by more liberal terms with respect to maturities and customer statements. Occasionally, also, in periods of monetary ease, interbank loan rates fall below the rediscount rates of the Reserve banks of certain districts. This, however, is exceptional. Now that the Reserve banks are permitted to loan upon the basis of any acceptable assets,¹ it would appear that the greatest reason for correspondent borrowing by members has been removed—provided of course that the Reserve banks see fit to make such advances.

A sixth factor of great importance was the fact that city banks paid interest upon such deposits, usually in the vicinity of 2 per cent but sometimes as much as 4 per cent. They were thus a

¹ Banking Act of 1935.

form of liquid investment competing with call loans and other short-term obligations. This inducement led country banks and reserve city banks to keep the maximum legal proportion of their reserves in the form of bankers' balances, as well as any surplus funds that came into their possession. Later, under the Reserve System, it likewise led member banks to pare their balances at the Reserve banks and their vault cash to a bare minimum since neither of these yielded a return.

The Banking Act of 1933, however, prohibited the payment of interest upon demand deposits, including interbank accounts. As yet there has been little opportunity to test the effect of this change upon bankers' deposits in view of the continuously large amount of excess reserves. It is significant, however, that outlying banks as well as city banks hold large excess reserves at the Reserve banks and appear to be indifferent about shifting them to city correspondents. Certainly with this great inducement removed there should be a substantial decline in interbank deposits whenever the Reserve banks take steps to reduce the volume of excess reserves.

A final inducement for the maintenance of bankers' deposits was, and continues to be, the variety of services that city banks perform for their correspondents. The most important of these relate to loans and investments. The vast store of credit information of New York City banks is available as an aid both in making customer loans and in buying commercial paper. In fact, New York banks stand ready to act as agents for interior banks in the purchase of acceptances or commercial paper, the placement of call loans, and the purchase or sale of investment securities. In addition, their security-analysis division provides advice respecting both particular securities and general investment policy.

Many interior banks also make use of the custodian services offered by the New York banks. These include the safe-keeping of bonds, the collection of interest coupons, and the purchase and sale of securities upon order. In this way, the interior banks are in position to arrange for loans on short notice with a minimum of red tape, and also to convert securities into reserves more quickly than would otherwise be possible. Other services facetiously mentioned by an officer of a large New York City bank range all the way from buying World's

Series tickets to arranging for the shipment of a corpse from Rome.

2. MOVEMENTS OF INTERBANK DEPOSITS

Bankers' balances have not, as many expected, been virtually destroyed by the Federal Reserve System. In fact, their absolute amount has increased substantially since 1914. They have, however, undergone a relative decline. That is, they have increased less rapidly than total deposits or total loans and investments. In 1915 they constituted 26 per cent of total member bank deposits while, by 1920, the ratio fell to 12.6 per cent and, by 1931, to 10.8 per cent. Although the ratio has recently risen in view of the abnormal surplus of bank reserves, it is probable that the downward trend will again be resumed. Such a course seems an almost certain consequence of the prohibition of interest payments on demand deposits combined with a gradual extension of the services of the Reserve banks.

The cyclical fluctuations of bankers' balances held by New York City banks are fairly wide. So many diverse influences, however, are constantly affecting their amount that a generalized explanation is likely to be misleading. A different combination of factors gives each change a peculiar character, necessitating independent analysis. Bearing this in mind, we may profitably observe the main facts with respect to their usual behavior.

It is ordinarily true that such balances increase during periods of business depression when local credit demands of interior banks subside, and decrease for the opposite reason during boom periods. They also tend to move inversely with the call-loan rate and with brokers' loans of out-of-town banks. When the call rate is rising interior banks draw down their bankers' deposits and place the funds in the call-loan market. On the other hand, when the call rate drops, bankers' deposits pile up either because brokers' needs are entirely met or because (until recently) a larger net return is realized on deposits. Now that their accounts no longer draw interest the relation to the rate on call loans should be less sensitive. It would seem that bankers' deposits should henceforth rise above a working level only when the banks find a dearth of desirable earning assets in relation to their reserves.

Finally, bankers' deposits show a materially higher rate of turnover than do individual demand deposits. While great variation exists, the velocity of the former in the larger centers is seldom less than twice or more than four times as high. This would naturally be expected in view of the huge volume of inter-bank transactions cleared and settled through them.¹

V. DEPOSIT INSURANCE

The new Federal system of deposit insurance is a direct consequence of the wave of bank failures that culminated in the complete collapse of 1933. In the four years, 1930-1933, nearly one-third of the country's banks, with deposits exceeding \$6,000,000,000, passed out of existence. The effect was to cause untold hardship upon individuals, to prostrate the business of entire communities deprived of banking facilities, and to intensify the severe deflationary cycle. It is not surprising, therefore, that an attempt was made both to diminish and to spread the risks of losses from this source.

1. STATE EXPERIMENTS

This is not, however, the first experiment with deposit insurance in the United States. Several states established programs of their own in the past, although for one reason or another all ended in failure. The forerunner of the more recent plans was the safety-fund system established in the State of New York in 1829. After a series of bank failures in the years 1840-1842, which piled up losses greatly exceeding the fund, the law was amended so as to apply only to bank notes.²

While there was much agitation for deposit insurance in several midwestern states after the panic of 1893, no state system was actually established until the resurgence of bank suspensions in 1907. Following the lead of Oklahoma, eight states passed such laws: Oklahoma (1907), Kansas (1909), Nebraska (1909),

¹ The reader who desires a more complete treatment of interbank deposits is referred to: L. L. Watkins, *Bankers' Balances* (New York, McGraw-Hill Book Company, Inc., 1928), 429 pp.; and J. G. Smith, *The New York Money Market*, Vol. II (New York, Columbia University Press, 1932), Chs. X, XI, XIII. To a large extent the above section is based upon these two valuable studies.

² For a more complete description of the safety-fund system, see pp. 151-152, *supra*.

Texas (1909), Mississippi (1914), South Dakota (1915), North Dakota (1917), and Washington (1917). One by one these systems broke down until by 1929 all were abandoned.

No other result, however, could reasonably have been expected in view of the numerous weaknesses common to all of them. There was an inadequate spreading of risk since most of the states were in one-crop farm areas. There was also a poor selection of risks because all state-chartered banks were included and national banks, usually larger and stronger, were not permitted to join. Furthermore, lax supervision winked at speculative and unsound operations that were bound to end disastrously. Add to all this the fact that no one of them was adequately financed, and there is no reason for surprise at their short-lived existence.

2. FEDERAL DEPOSIT INSURANCE

The first program of deposit insurance on a nationwide basis was incorporated in the Banking Act of 1933. However, owing to the fact that a general revision of the section (12B) was made by the Banking Act of 1935, we shall be mainly concerned with the later and more permanent form. Between January 1, 1934, and August 23, 1935, a temporary insurance plan provided in the earlier act was in force. It applied to all member banks of the Reserve System and to such nonmember banks as made application and were admitted to the system. All banks insured under the temporary plan were automatically admitted to insurance under the permanent plan.

a. The Federal Deposit Insurance Corporation

The act creates the Federal Deposit Insurance Corporation under the management of a board of three directors. Two of these, including the chairman, are appointed by the President for a six-year term. The Comptroller of the Currency serves, ex officio, as the third member.

b. Sources of Funds

The resources of the Corporation are derived from three sources: capital stock subscription, earnings on investments, and assessments levied on insured banks. All of the stock, which is nonvoting and pays no dividend, is owned by the United States Government and the Federal Reserve banks. The sub-

scription of the former was \$150,000,000, and of the latter \$139,000,000, thus providing initial capital of \$289,000,000. Annual assessments of insured banks are $\frac{1}{12}$ of 1 per cent of their total deposits, which for 1936 amounts to approximately \$35,000,000. In addition, the corporation is authorized to borrow up to three times the capital stock plus the assessment made during 1936. This amounts to about \$975,000,000, so that the total potential fund now available to the corporation is in excess of \$1,300,000,000. Total assets, consisting mostly of United States securities and cash, amounted to \$337,000,000 at the beginning of 1936.

c. Participating Banks

All members of the Reserve System are required to participate, and nonmember banks are permitted to do so, provided they are able to meet specified standards. Factors that the directors must consider in passing upon admissions are: (1) the financial history and condition of the bank, (2) the adequacy of capital, (3) the prospects for earnings, (4) the character of management, (5) the need for banking facilities in the community, and (6) whether the corporate powers of the bank are consistent with the purposes of the insurance law. On June 30, 1936, there were 14,055 insured commercial banks in the United States with total deposits of about \$47,000,000,000. These banks held 97 per cent of all commercial bank deposits. About 1,000 small commercial banks, many of which fail to meet admission standards, remain uninsured. Most of the mutual savings banks have also elected to remain outside.¹ In several states, however, they have set up insurance systems of their own.

A nonmember bank may, upon ninety days' notice, withdraw from Federal insurance, but its assessments continue and its depositors remain insured for a further period of two years. After July 1, 1942, however, no commercial bank with average deposits of \$1,000,000 or more is entitled to such insurance unless it is a member of the Reserve System. The corporation is also empowered after due notice and a hearing to terminate the insured status of any bank that violates the law or engages in unsound practices.

¹ Of the 566 mutual savings banks in operation at the beginning of 1936, only 56 were participants in Federal insurance.

d. Maximum Limit of Insurance

The maximum amount of insurance for each deposit account is fixed at \$5,000. This affords full coverage for all but about $1\frac{1}{2}$ per cent of the accounts and partial protection for the rest. However, only 43 per cent of the total deposits of insured banks is covered.

e. Procedure in Event of a Failure

In addition to providing protection, a distinct service of the new system is the promptness with which deposits of suspended banks are paid. Very briefly stated, the procedure of the corporation in the event of a suspension is as follows. As soon as the net insured deposit of each account is determined, payments to depositors are begun. These are usually made directly by the corporation through its claim agent but they may be made through a new national bank established for the purpose. During 1935, such payments were usually begun within ten days following the receivership. In the liquidation which follows, the corporation has a claim upon the proceeds that would otherwise be paid to the insured depositors. If the failed institution is a national bank, the corporation is itself the receiver. It may also serve in that capacity for state banks in about 30 states. The average recovery thus far is about two-thirds of the liabilities to creditors.

f. Powers to Prevent Losses

Certain powers designed to minimize losses, and therefore of the utmost importance for the system's success, are granted to the corporation. It may refuse to admit to insurance those banks that do not measure up to required standards. It may terminate the insured status of banks that engage in unsound practices or violate the law. It may examine and require reports of condition from insured nonmember banks. It may make loans to, or purchase the assets of, any insured bank with a view to facilitating a merger with another insured bank. By this method, threatened losses may be averted or reduced. It may require any insured bank to provide proper protection against burglary, defalcation, and other similar insurable losses. It may limit interest payments upon time deposits. And,

finally, its consent is required before any insured bank may merge with, or assume obligations of, an uninsured bank, and before any insured nonmember bank may reduce its capital or establish a new branch. These powers, if diligently and wisely exercised, should enable the corporation to reduce substantially the losses sustained from bank failures.

g. Objections

The two principal objections to Federal insurance of deposits as it now stands are: first, that any such system tends to undermine sound and conservative bank management, and therefore contains the seeds for its own destruction; and second, that the assessment basis is grossly unfair to the large city banks. There is unquestionably an element of truth in the first charge, although it is often exaggerated by opponents of insurance. Since depositors become less concerned about the safety of particular banks, the conservative banker is more likely to lose deposits to competitors who offer more liberal credit terms, pay a higher rate of interest on deposits, and make available a wider range of free services. This tendency must be recognized and safeguarded in any successful insurance program. But the claim that bankers will become speculative because they no longer need to worry about the safety of depositors has no real foundation. Bankers are far more vitally interested in the welfare of stockholders, whose investment is at stake, with or without insurance. Moreover, the professionally minded banker should still be concerned about the 55 to 60 per cent of deposits to which insurance does not apply.

On first view the charge that the large banks are inequitably burdened with the costs of the program appears to be plausible. They are assessed on the basis of total deposits while only a small part of their deposits actually enjoys the benefit of insurance. The deposits of small banks, on the other hand, are completely or largely covered with the \$5,000 maximum limit. Fairness would therefore seem to require that the basis for assessments be *insured* deposits rather than *total* deposits. But the answer is that the prohibition of interest upon demand deposits was provided in large part for the definite purpose of carrying the cost of insurance. This saving to the banks amounts to more than six times the annual assessment. For the large city banks

expenses are lightened even more in proportion to assessments. In the year ended June 30, 1930, for example, New York City national banks paid interest on demand deposits of over \$48,000,000. Their annual assessment for insurance in that year would have been only about one-sixteenth of that amount. There seems, therefore, little basis for complaint on this score by the large banks. Moreover, as a practical matter a program of mutual insurance could not be properly financed upon the narrower assessment basis of *insured* deposits.

h Advantages

Several advantages should be realized from the new system, if we may assume a high caliber of administration. First, it should raise public confidence in the banks. Knowing that depositors are less subject to scares and panic, bankers should be in better position to perform their normal functions in the community. Unquestionably the corporation has already contributed materially to the rebuilding of confidence so badly shattered in 1933. Second, the system provides protection for the small depositor who is least able to judge the soundness of a bank, or to withstand the loss from a failure. Third, the powers of the corporation should enable it to reduce bank suspensions by more thorough and more courageous supervision. It furnishes a more effective means than we have had before of coordinating and raising the standards of the fifty separate supervising agencies in the country. This, together with its own direct regulatory efforts, should bring about improved standards of banking practice. Last, the system makes possible the prompt payment of depositors of closed banks so that a failure causes less disruption of the affairs of the whole community as well as of the depositors themselves. This applies not only to insured deposits but also to uninsured accounts through loans upon closed-bank assets.

i. Adequacy of Assessments

In view of the short and peculiar period during which the corporation has operated, it is entirely impossible to determine whether the present assessments are sufficient to meet future losses. Such a thorough weeding out and strengthening of weak banks occurred before Federal insurance began that relatively few failures have since taken place. During the first two years

only 31 small banks with deposits of about \$11,000,000 were placed in receivership. Losses and expenses were more than covered by the interest on the corporation's investments. But this is, of course, no indication of normal loss experience. In fact, unless our banking record can be greatly improved, the present annual assessment of $\frac{1}{12}$ of 1 per cent is far from adequate. During the seventy-year period, 1865-1934, the average annual loss to depositors within the \$5,000 maximum limit amounted to about 0.25 per cent of deposits in active commercial banks. Perhaps our banking authorities, including the corporation, may be able to reduce the rate of loss by a wise exercise of their newly acquired powers. This remains to be seen. Otherwise, either a higher rate of assessment or periodical contributions by the Government will be necessary to finance the present plan.¹

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¹ The statistical information in this section is, with but a few exceptions, found in the *Annual Reports of the FDIC.*, for 1934 and 1935.

CHAPTER XVII

CLEARINGS, COLLECTIONS, AND TRANSFERS

One of the major technical aims of a banking system is to provide the largest possible cancellation of credit claims so that the expense of physical transfer of gold and lawful money in settlement of balances may be kept at a minimum. In fact, the degree to which such credit offsets occur constitutes a good measure of a banking system's technical efficiency. The first step in the cancellation of claims is among customers of the same bank. If Jones, a merchant, gives Brown, a coal dealer, a check for \$500 on their common local bank in payment for his winter's supply of coal, the bank simply deducts the amount from Jones' account and adds it to the account of Brown. No cash changes hands.

The second cancellation step occurs among the several banks of a community through the exchange and offset of checks at the local clearinghouse. Only a small balance remains to be paid after the clearing by a shift of actual bank reserves. A third phase of the offsetting process arises in connection with checks sent to make payments at distant points. By an ingenious device to be described presently, the Reserve System has succeeded in extending the effective clearing area to embrace the entire country. The final step is effected in the foreign exchange market by the great international bankers. Through their intermediation the counterclaims of all commercial nations are largely canceled. Thus, in a very real sense the nation's business and the world's trade are financed by credit media without the physical transfer of ultimate reserves.

I. THE CLEARINGHOUSE

A clearinghouse may be defined as an association of banks to facilitate the exchange, offset, and settlement of credit claims among them, and to serve in any other way their mutual interests. Thus, while the clearing of checks and other credit claims is the

primary function of a clearinghouse, it likewise performs a variety of trade association activities.

1. ORIGIN OF THE LONDON CLEARING HOUSE

Prior to the advent of clearinghouses, the banks "cleared" directly with each other. A messenger would start out from his bank—Bank A—with several bundles of checks drawn upon a number of other banks. He would go to Bank B, deposit his checks, collect his cash, and then proceed to Bank C, where he would go through the same procedure. And so on with banks D, E, and the rest. While he was doing this, Bank B's messenger, or "walk clerk" as he was called in London, would be doing exactly the same thing at banks A, C, D, and the other banks. About 1670, two of these walk clerks happened to meet in a coffee house in London where each had gone for some refreshments. It appears that these two messengers, in order to eliminate the long walk and fatigue as well as to give themselves more time for refreshments, decided to make their exchanges in the coffee house. This subterfuge was not discovered for a long time. Before it was found out, other walk clerks had learned of the time- and labor-saving scheme of their colleagues, and soon the coffee house had become the first clearinghouse. When the banks learned of the scheme, opinion seems to have been about equally divided: some banks ordered their walk clerks to cease this practice; other banks with a vision held out for its development. The latter group won out; and from this humble beginning the London Clearing House was evolved.

2. THE NEW YORK CLEARING HOUSE

a. Origin

Prior to the establishment of the New York Clearing House in 1853, the 52 banks in that city used a novel method for clearing and collecting. Each of these banks would receive checks on the other banks during the course of the day's operations. Each bank maintained a deposit balance with every other bank. Prior to 1853, the banks had agreed that each would send out messengers to the other half of the banks for six months. This reduced the work by half. The Bankers Trust would have checks which were drawn on the Bank of Manhattan. These

checks would be listed and charged to the account of the Bank of Manhattan in the passbook. They would then be placed in the book and sent to the Bank of Manhattan, where they would be delivered to the receiving teller. He would remove the checks and at the same time, having checks on the Bankers Trust, would credit his bank with the proper amount in its passbook, place the checks in it, and hand it back to the messenger. The messenger would then call at the other banks, and the procedure would be repeated.

There were no daily settlements at the time, because this would involve the paying and receiving of 51 balances. Settlements were effected on Friday. The cashier of each bank would draw drafts for all debts due his bank and send the messengers out with drafts to be collected. The process was chaotic and confusing.

As early as 1841, Albert Gallatin proposed a plan which to a very remarkable degree was similar to the one afterward adopted. But Gallatin was in advance of his time, and it was not until 1853 that the New York banks met and appointed a committee to provide for the creation of a clearinghouse. On October 11, 1853, the representatives of the banks which were members of the association met in the basement of 14 Wall Street and cleared. The total clearings for the first day amounted to a little less than \$23,000,000 and the balances were a little less than \$1,300,000. These clearings seem small when one remembers that a single check for \$146,000,000 went through the New York Clearing House in 1925, and that in 1929 clearings totaled \$457,000,000,000.

From this beginning the movement spread. Soon all the larger cities followed, until at the present time almost every city of any size has a clearinghouse. These clearinghouses have added new functions as the need for them has developed.

b. The Clearing Operation

While the clearing process differs in detail among the various clearinghouses of the country, an explanation of the clearing work of the New York Clearing House will give a picture of the procedure involved. The following interesting description of this clearing house is from the pen of Mr. Silas Bent.¹ Since

¹ *The New York Times*, January 25, 1925; used by permission of Mr. Bent.

the appearance of his article, the New York Clearing House has abolished the rule requiring its members to charge exchange on out-of-town checks. This, combined with the collection of bond coupons, was a great step forward.

A DAILY DRAMA OF A BILLION DOLLARS

A mellow gong sounds. The clock beside it registers the stroke of ten. Instantly, in a spacious gallery beneath a glass dome, scores of young men start into feverish activity. There is the hurried passing from hand to hand of envelopes, some of them fat, some of them thin. In front of a series of desks, ranged across the chamber, messengers dart back and forth. Behind the desks other messengers busy themselves with formidable columns of figures.

There is a sort of controlled delirium. There is the sound of rapidly moving feet and of many low-spoken voices. Papers change hands, columns of figures are added with uncanny speed. More than a billion dollars is at stake here, more than a billion is being accounted for. The New York Clearing House is at work. Then the furor of personal movement and calculation is at an end. The billion and more has been balanced. A miracle of accounting has been accomplished. And it has been done in ten minutes or less!

In the transfer and balancing of this billion or more, there is not the exchange of so much as a silver dime.

Where Your Check Goes

Nearly all of us have noted the clearinghouse stamp on the back of our canceled checks, but most of us are very likely to think that the remote process must take a day or two, at least. We give a check through the Bank of Gold, let us say, to our landlord for the month's rent; and our landlord deposits it with the Bank of Silver. On the back of it, when it comes back to us, we find some such stamped legend as this:

Received payment through New York Clearing House. Prior endorsements guaranteed. The Bank of Silver.

As a fact, we are not inclined to take that green-ink stamp very seriously. We do not realize that we have arranged a titanic rendezvous. Are we not inclined, most of us, to suppose that the neighborhood bank where we keep our funds, fat or slender, is the beginning and end of the transaction? We have given an order to pay the landlord a certain sum and that is the end of it. It is indeed the end of it as far as we are concerned; but that check becomes a fragment of the happenings, like a fan at a baseball game, or a snowflake in a storm.

The New York Clearing House is at 77 Cedar Street. There you will find a dignified structure, with wide windows, a mere dwarf among the skyscraper office buildings around it, where there is enacted, almost unnoticed, a daily transaction of extraordinary efficiency and magnitude. Not long ago the clearings passed by \$50,000,000 any previous record. The volume went, in fact, to \$1,655,000,000. It was a figure within a fifth of a billion of all the paper currency then in circulation, not merely in New York City but in all the United States. In no other city in the world, so it was said with some pride in Wall Street, had the banks on a single day received such a total of checks. In London, on seven occasions last year, the figure ran to the equivalent of a billion dollars but never into the neighborhood of this record; and London is New York's closest competitor.

Let us see what has become of your rental check. Just before that gong sounded, scores of bank messengers had entered the Cedar Street structure. They entered in pairs, and each couple carried, one at either end, a container shaped somewhat like a suitcase, a wide suitcase, open at the top. The container was filled with envelopes, and the envelopes in turn were filled with checks, one of which was yours. The big downtown banks may send several such containers. Even the Post Office sends one, for here its postal orders are cleared.

Now, although only 40 New York banks are members of the clearing-house, all the checks given in town are cleared here; for nonmember banks send their checks to the New York Federal Reserve Bank or effect their exchanges through some other member of the house or clear through a collection agency which the house itself maintains for institutions below Fifty-ninth Street—an arbitrary line.

So your check, which your landlord sent by messenger or mail—or took in person—to the Bank of Silver is in one of these containers. It is the duty of the Bank of Silver to collect that money for your landlord, who has ceased to trouble himself about it and has already listed it among the deposits credited in the stubs of his checkbook.

How the Balance Is Made

When the messengers arrive with their paper burdens, they present to the clearinghouse officials a statement of the total checks they have brought. To each bank its total is credited. If an error has been made, it is certain to appear, and a fine will be duly imposed. Against this is charged the amount each bank owes all the others, which may be more or less than the credit. Whichever it may be, it is satisfied through Federal Reserve balances. That is the present custom; but until 1917 the settlement was made in cash; and although the cash involved amounted to only 5 or 10 per cent of the clearings, it was awkward to

send such sums by messengers from bank to bank or from a bank to the clearinghouse. So the Federal Reserve Act was amended during the World War to simplify the process.

On one side of the long double desks ranged in the upper chamber of the clearinghouse—each desk divided into compartments—stand the delivery clerks for the banks, and on the other, the settling clerks. The delivery clerks are a small army of maneuver. They carry to the desk occupied by No. 8 (for the members are known by numbers, not by titles) the checks their banks hold against it. In turn, the clerks of No. 8 are carrying to various desks the checks for which they must have an accounting. The settling clerks keep books.

At one side of the chamber is a mezzanine gallery, where the manager, William J. Gilpin, strikes the gong. If the clerks of a bank are tardy, they are fined. It does not often happen. On a recent occasion there was an error of 30 cents somewhere in the wilderness of figures. The actual process of exchanging had required but seven minutes; but it was 10:49 that morning before the error was found, after which the offending clerk, or his bank, was disciplined. It was necessary before the thing was cleared up to pass the sheets of figures from hand to hand along the desks, on the theory that a clerk will find another's mistake more quickly than his own.

On this day a million checks were going through the mill. But it was not necessary to examine them separately. At the clearinghouse no checks are inspected. The books must balance and the adding machine has about eliminated errors in the statements the members make of the total checks they have on hand. When an error occurs, it is made in the rapid process of footing up one bank's debit and credit with another.

On the day in question, for example, a certain downtown bank had, roughly, \$132,000,000 to collect, and there were total checks against it of \$141,000,000. The bank made good the difference of \$9,000,000 as an everyday matter of course, although the \$9,000,000 might just as readily have been in its favor; but it did not deliver \$9,000,000 in currency; the balance against it was settled by means of its credit with the Federal Reserve.

Thus there took place in seven minutes a transaction that might have required a day or two had each bank settled its account with the others through messengers. And, in the process, money, as most of us think of it, became an almost mythical thing. Not a Federal Reserve note, not a greenback, not a silver dollar changed hands.

Universal Use of Checks

We do more than nine-tenths of our business, as a fact, without the use of till money. We pay with checks and drafts, and we do it to a

greater extent than any other country, even greater than England, where banking and the clearinghouse system are older than ours. France, for instance, uses currency at a great rate, although the government is making an effort to remove technical obstacles to the use of orders to pay instead of bank notes. The total bank deposits are but two-thirds of the money in circulation, and commercial credits are but little more than half, while even in England bank deposits are five times as great as the currency, specie, and commercial advances taken together. France wants to reduce the volume of her bank notes and has seen that business goes along more smoothly and rapidly when "deposit currency," as the economists call it, is employed.

And we are just learning that the movement of deposit currency is a fairly accurate barometer of the state of business. When banks have a heavy turnover, it means that the markets are active. It is not merely in the volume of funds transferred but in the number of checks drawn that the observer can feel the country's pulse. So the recent huge volume of clearings in New York was a fresh indication of prosperity.

But statements of bank clearings have their disadvantages, because they are issued only periodically for the whole country; and then they do not represent with entire accuracy the turnover of bank business. Within a single institution some of the clearing is done when checks are drawn by one depositor in favor of another depositor there. Such paper does not go to the clearinghouse, and a single bank in this city has accounted in one day for as much as \$10,000,000 in this way.

So the Federal Reserve System has begun getting weekly reports from banks in 141 cities as to their turnover; and Carl Snyder, statistician of the New York bank, thinks these reports the most accurate barometer of what is happening in commerce and industry the country has yet found.

Terms of Admission

No bank is admitted to the clearing association unless it has an unimpaired capital of at least \$1,000,000; those which have a capitalization of \$5,000,000 or less pay an admission fee of \$5,000 and those having more pay \$7,500. The annual expenses are assessed in proportion to the average volume of exchanges for the preceding year. There is a system of fines, interest rates, and collection charges and as formidable an array of committees as the Stock Exchange can boast.

If you overdrew your account when you gave that check to your landlord, it goes back to the member bank from which it was received; and there are clearings in the afternoon to take care of drafts, notes, and checks which for any reason are not good or have been missent. In the meantime, not later than one o'clock, every member bank from

which a balance is due has met it through the Federal Reserve bank. It can meet this balance with gold coin if it wishes, or with gold notes, or legal-tender notes, or clearinghouse certificates, but as a fact it prefers to do the thing through an adjustment of its balances. At one o'clock, then, or soon thereafter, Mr. Gulpin adjusts the amounts due to the creditor banks.

Meanwhile, at 77 Cedar Street, a busy corps of clerks will meet every week-day morning, excepting on holidays, to exchange a million checks, more or less, debiting certain banks and crediting others, with perhaps an error, once in a great while, of 30 cents or so. The wheels of this huge machine whir with a slight buzzing for perhaps seven minutes, perhaps as long as ten, and the thing is done. The vast machine slows down and the clerks return to their banks; and at one o'clock in the afternoon some \$50,000,000 may change hands, but not in cash; no, the dollar has been attenuated in the clearinghouse process until it is almost invisible.

3. SIZE AND SETTLEMENT OF BALANCES

The size of balances in relation to clearings varies considerably from day to day and among different clearinghouses. In general, the situation which makes for a small balance is a large number of equal-sized banks, each with a large number of depositors whose accounts do not vary greatly in size. On the other hand, when the size of banks and of deposit accounts varies widely and the numbers are small, the cancellation process is less complete. In the period, 1854-1913, the ratio of balances to clearings in the New York Clearing House was only 4.65 per cent. But since the admission of the Reserve Bank of New York to membership, the balance has greatly increased. This is because the Reserve bank presents out-of-town items against the New York banks at the clearinghouse but receives their out-of-town collection items directly in its collection department. Another factor tending to enlarge the ratio is the consolidations of recent years. In the last few years the ratio of balances has varied between 10 and 16 per cent.¹

Since the inception of the Federal Reserve System, many of the clearinghouse associations use the Federal Reserve banks for paying balances. The manager of the New York Clearing House sends a statement to the Federal Reserve Bank of New York, which in turn credits the accounts of the creditor banks and debits the accounts of the debtor banks. In cities where

¹ *Annual Report of Comptroller of the Currency*, 1935, p. 799

there is a Reserve bank branch, the settling of balances is done through it. In certain other cities settlement is made through the Reserve bank, even though it is located at some distance. In such instances the manager of the clearinghouse advises the regional banks by telegraph of the debits and credits, and the proper book entries are then made. This method combines speed and efficiency with economy.

In the smaller cities, settlement is frequently made by drafts drawn upon city correspondent banks, especially upon New York City banks.

4. TRADE ASSOCIATION ACTIVITIES

Proper performance of the banking function necessarily involves greater interdependence and more numerous contacts among establishments than in other types of business. This is particularly true of the several banks of one city. As a consequence a number of services and activities furthering the mutual interests of the banks have been performed by the clearinghouse in addition to its primary function of clearings. These trade association activities may be conveniently considered under the headings: examinations, mutual action in case of a bank failure, issue of loan certificates, and the regulation of banking competition.

a. Clearinghouse Bank Examinations

Clearinghouse examination began in Chicago in 1905, when the three Walsh banks—a savings bank, a trust company, and a national bank—were in serious difficulty. As a result of a session covering a good part of two days, the clearinghouse banks of Chicago agreed to pay the depositors of these three institutions. Accordingly, about \$20,000,000 was paid out, and a general disturbance which might have affected the entire financial community was avoided.

At that time a Chicago banker with vision suggested that the clearinghouse employ examiners to minimize such cases in the future, and the proposal was adopted. This system of bank examination by clearinghouse examiners started in 1906. Since that time, it has been adopted by 34 clearinghouses.

The clearinghouse association employs experts who examine the condition of its members and in some cities that of non-

members as well. This examination is supplementary to that of the state or national bank examiners. It is of much the same nature although usually more searching and thorough. One clearinghouse requires that a written report of every bank found unsafe or the least bit "shaky" be sent to each of the directors of the bank and to the president. The president is then obliged to call a special meeting of the board to consider this report. No other business is transacted at this special meeting. Such a procedure centers attention upon the condition of the bank and makes the directors realize their responsibility.

Clearinghouse examinations also reveal the total loans made by all banks in the city to a particular borrower. John Brown, for example, may have a line of credit amounting to \$50,000 at each of five banks. His moral integrity, business habits, capital, and the like may entitle him to a line of \$50,000 at one bank but not a total line of \$250,000. In the absence of clearinghouse examinations, this overextension of credit may not be called to the attention of the various banks until it is too late. False statements of condition of customers as well as banking irregularities and unsound policies are also frequently uncovered.

b. Mutual Action in Case of Failure

If, in spite of the preventive influence of examinations, a bank failure occurs, the association provides an organization through which concerted action may be taken in handling the situation. In a large number of instances the associated banks have prevented loss to depositors by standing behind the liabilities of the failed institution. A good illustration of such action occurred in Detroit in March, 1931, when the American State Bank failed. Moving without delay, the Detroit Clearing House banks guaranteed the deposits of \$40,000,000. Each member agreed to participate in the losses sustained in the proportion of its invested capital.

With the establishment of Federal deposit insurance, clearinghouses are now relieved of a large share of their former responsibility in the event of a local bank failure. However, it is possible that they may still find a field for mutual action with respect to the uninsured portion of deposits.

c. Clearinghouse Loan Certificates

Although no longer of much significance since the Federal Reserve System, the chief emergency function of clearinghouses in the old days was that of conserving and equalizing reserves by the issue of loan certificates. These certificates were advanced to members upon the basis of pledged assets and were acceptable in settlement of debit balances. They were issued to ease the pressure on reserves in every panic between 1873 and 1914. Clearinghouse certificates in small denominations were also issued into circulation during severe panics in order to relieve the shortage of hand-to-hand money.

d. Regulation of Banking Competition

Clearinghouses also constitute agencies through which banking competition is regulated in various ways. Before the Banking Act of 1933, the most important activity of this kind was that of fixing a schedule of interest rates to be paid upon the different classes of deposits. All such regulation, however, is now in the hands of the Board of Governors and the Federal Deposit Insurance Corporation. Uniform charges are usually enforced for safe-deposit services, collections, foreign exchange, bank drafts, and a few other less important services. In recent years there has also been a growing movement to adopt uniform methods in handling unprofitable deposit accounts. Other regulations that are often enforced upon members are concerned with: (1) frequent detailed statements of condition; (2) the delivery of pay rolls; (3) the receipt of deposits away from the premises of the bank; (4) banking hours and holidays; and (5) the handling of checks on nonpar banks.

Like trade associations in general, clearinghouses raise important problems of public policy. That is, in addition to their useful and beneficial services there is a real danger that they may become the instruments of banking monopoly. A more effective system of government regulation than now exists is needed to safeguard the public against excessive charges for banking services.

5. BANK-CLEARINGS STATISTICS

The most complete and useful record of bank clearings is found in the *Commercial and Financial Chronicle*. Weekly,

monthly, and yearly figures are reported for 165 leading cities. Dun and Bradstreet also publish monthly figures for 22 leading cities. In addition, the annual amount of clearings for every reporting association in the country (262 in 1935) is given in the *Annual Reports of the Comptroller of the Currency*.

While clearings statistics represent a fairly good index of business activity, certain limitations upon their usefulness for this purpose should be kept in mind. First, they may be strongly influenced by speculative security, commodity, or real-estate transactions. In fact, the volume of clearings in New York City is considered to be one of the best indexes of speculation, and it is usually deducted from total clearings when a business index is desired. Second, clearings reflect price changes as well as changes in the physical volume of business. If one is interested in the latter, therefore, it is often necessary to make an adjustment for prices. Third, since clearings reflect actual check payments, they tend to lag behind actual wholesale purchases by the average length of the credit period. And last, they do not include the considerable number of checks that represent payments among depositors of the same bank. In a period of numerous mergers, clearing statistics may for this reason become useless and misleading.

Since debits to individual deposit accounts are free from this last limitation, they represent a better business index than clearings. The Board of Governors releases every week the amount of debits for each of 141 leading cities of the country.

II. FEDERAL RESERVE SYSTEM OF CLEARINGS AND COLLECTIONS

One of the leading responsibilities of a central bank, as we have seen, is that of providing an efficient system for the cancellation of interbank claims. It is not enough to have local clearinghouses. There are needed, in addition, arrangements for handling and offsetting the vast volume of checks sent to make payments at distant points. The Reserve System early assumed this responsibility and, in 1916, established a collection system that represented a great improvement over the old make-shift correspondent facilities.

Within each district the Reserve bank and its branches serve as clearinghouses for the member banks. Since each member has a reserve balance, it is a simple matter for the

Reserve bank to credit and debit member banks' accounts with the claims for and against them. Then through the Inter-district Settlement Fund maintained by the Reserve banks with the Board in Washington, the process is extended to the entire country.

Collections are made by the Reserve banks free of charge for member banks and for those nonmembers that maintain an adequate balance for the purpose. The system is not all-inclusive, however, since the Reserve banks refuse to receive items drawn on "nonpar banks," *i.e.*, on banks that do not pay the face value of their customers' checks returning for collection through the mail. At the beginning of 1936, the nonpar list included 2,694 small banks that persist in the practice of deducting an *exchange charge* of between 0.25 and 0.1 per cent. Their checks, which fortunately represent only about 2 per cent of the total, must be collected outside the Reserve System through correspondent banks.

Some idea of the size of the collection task performed by the Reserve banks is given by the fact that during 1935, 885,000,000 checks amounting to \$203,000,000,000 were handled.¹

1. INTRADISTRICT CLEARINGS AND COLLECTIONS

Let us take a concrete example to show how an intradistrict clearing operation is effected. Assume that the First National Bank of Ralston, Pennsylvania, has received during the day checks totaling \$5,000 on other par-remitting banks in its Federal Reserve district. These checks are sent to the Reserve Bank of Philadelphia and, when collected, are there credited to the account of the First National Bank of Ralston, thereby adding \$5,000 to its legal reserve balance. At the same time, the Reserve Bank of Philadelphia is receiving from many other par-remitting banks checks on other such banks in that district, among them the First National Bank of Ralston. If the total checks which the regional bank receives on the First National amount to \$3,000, this amount is deducted from the account of the Ralston bank, thereby leaving a net addition to its deposit with the Reserve bank of \$2,000. The checks are then sent to the First National Bank of Ralston which debits the accounts of the drawers.

¹ *Annual Report of Board of Governors*, 1935, p. 46.

This process avoids the circuitous routing of checks, eliminates exchange charges, and reduces the shipment of specie. The difference between this method of collecting and the old one is graphically illustrated in Chart 10 which shows the route of a check from North Birmingham to Birmingham, Alabama, both before and after the adoption of the Federal Reserve System. It

CHART 10.—ROUTE OF A CHECK BEFORE AND AFTER THE FEDERAL RESERVE BEFORE THE FEDERAL RESERVE

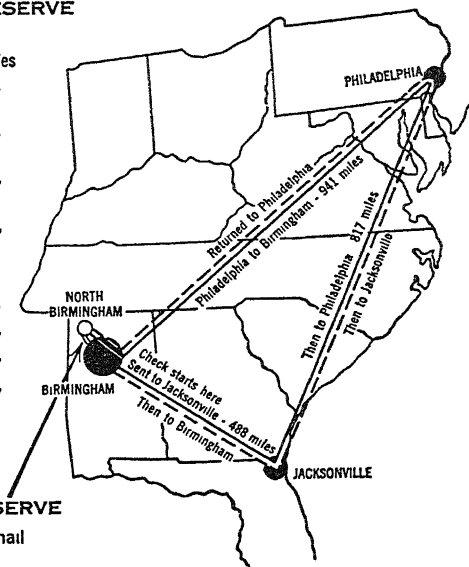
Check on North Birmingham bank
was deposited in Birmingham bank 4 Miles
Sent to bank in Jacksonville, Florida 488 "
To avoid payment of exchange
Sent to bank in Philadelphia 817 "
To avoid payment of exchange
Sent to bank in Birmingham 941 "
To avoid payment of exchange
Sent to bank in North Birmingham 4 "

CHECK NOT PAID AND

Returned to Birmingham bank 4 "
Returned to Philadelphia bank 941 "
Returned to Jacksonville bank 817 "
Returned to Birmingham bank 488 "
Returned by Birmingham bank to depositor
Distance traveled 4500 miles
Time in transit 14 days

UNDER THE FEDERAL RESERVE

Collection would be made by mail
directly in 2 days



(From *Of Service to Banks and Business*, p 12)

is to be noted that the check traveled 4,500 miles, consuming fourteen days, under the old system, while under the new system it traveled 4 miles and was paid in two days. The Reserve banks receive items for collection on what is known as the "deferred availability" scheme. According to this scheme, the items are credited to the sending bank immediately but are not available until collected. The time taken to collect depends upon several factors, such as distance, railway service, and mail schedules.

Each of the member banks and nonmember-clearing banks receives from the Reserve bank a schedule indicating how long a period must elapse before the remitting bank is given reserve

credit for collection items. Such credit is given after the lapse of a period varying from one to eight days.

Many member banks clear through one of the 25 branches of the Federal Reserve banks. The First National Bank of Spokane, for example, need not send all its collection items to the San Francisco Reserve Bank. Assume that the First National has checks which are drawn on member banks in Portland, Oregon. If it were to send these checks to the Reserve Bank of San Francisco, the latter would then be obliged to send them to the various member banks in Portland. This circuitous route would mean considerable delay. Instead of doing this, the First National sends these to the Spokane branch of the San Francisco Reserve Bank and the Spokane branch sends the checks to the Portland branch. For such transactions the branch banks are assigned a definite territory.

2. INTERDISTRICT CLEARINGS AND COLLECTIONS

Intradistrict clearing and collection, however, is not enough. Many checks are drawn in one district and sent to banks in other districts, because trade and industry cut across district lines. Such checks are cleared and collected under the new system quickly without the payment of exchange charges.

Let us assume that James Wilson, whose home is in Dallas, Texas, enters Dartmouth College. His father agrees to grant him an allowance of \$100 a month. On November 1 he receives a check from his father drawn on the Tenth National Bank of Dallas which he deposits in the Dartmouth National Bank.

The Dartmouth bank forwards this check, together with many others, to the Federal Reserve Bank of Boston and receives reserve credit for it in about five days. At the same time, many other banks in the First district are sending checks to the Federal Reserve Bank of Boston. At the end of a day, the Boston Reserve Bank has checks totaling, say, \$2,500,000 drawn on banks in the Dallas Federal Reserve district. These checks are sent to the Federal Reserve Bank of Dallas which in turn charges them to the accounts of the banks on which they are drawn. The Dallas Reserve Bank then wires a figure to the Interdistrict Settlement Fund crediting the Reserve Bank of Boston with \$2,500,000. At the same time various other Reserve banks are sending in their debits, a balance is struck, and the

necessary credits or debits to ownership in the Settlement Fund are made. Meanwhile, the Dallas Reserve Bank sends the check to the Tenth National Bank of Dallas which in turn deducts it from the account of the drawer. In a nutshell, the credit of \$100 which James Wilson gets at the Dartmouth National Bank is transferred by debiting the account of his father at the Tenth National Bank of Dallas.

The fact should be emphasized that the Dartmouth National is now able to receive reserve funds in less than half the former time, (1) because its reserve balance at the Boston Reserve Bank is credited as soon as the Dallas Reserve Bank makes the collection, thus saving the return-mail time, and (2) because of the more direct routing of the check.

With the gradual perfection of the system, numerous special arrangements have been devised in order to shorten the time and expense of collection. Large member banks often send checks directly to Reserve banks in other districts and at the same time notify their own Reserve bank of the transaction. In this manner indirect routing and an extra handling of the items are avoided so that reserve credit may be received a day or so earlier. The extension of county clearing arrangements has also been encouraged in order that banks of the same county and vicinity may exchange checks directly. Settlement of balances is made by debits and credits on the books of the Reserve bank.

3. THE WIRE-TRANSFER SYSTEM

The wire-transfer system makes it possible for funds to be shifted quickly within the United States and eliminates the physical transfer of lawful money to a remarkable extent. This result is achieved by bookkeeping entries facilitated by a private leased wire connecting all Reserve banks and their branches.

Two concrete examples will show how the wire-transfer system works. Assume that the Fifth National Bank of Minneapolis has a favorable clearing balance of \$200,000 and that it decides to lend this sum out on call. Instead of sending a check to its New York correspondent for that amount or shipping currency, as would have been necessary in the days before the Reserve System, the proper officer instructs the Federal Reserve

Bank of Minneapolis to transfer \$200,000 by wire. The procedure then is as follows:

1. The Minneapolis Reserve Bank wires the New York Reserve Bank \$200,000 and at the same time debits the reserve account of the Fifth National Bank by that amount.
2. The Federal Reserve Bank of New York credits the account of the New York correspondent bank, say the Chase National Bank, and the amount is used by the Chase at once in accordance with the instructions it receives from the Minneapolis bank.
3. At the end of the day the Reserve Banks of Minneapolis and New York report their debits and credits, and balances are effected by changes in the claims to the Interdistrict Settlement Fund.

Similarly, the telegraphic transfer of funds is made for business corporations. The branch of the General Motors Corporation in St. Louis may be instructed to send \$100,000 to the New York office of the company. In this case the manager may instruct his St. Louis bank to send this sum by the wire-transfer system to the Chase National Bank in New York for the account of the New York office of the General Motors Corporation. The St. Louis bank debits the account of the General Motors Corporation and instructs the Federal Reserve Bank of St. Louis to transfer this sum. After that the operation is exactly the same as in the preceding illustration, except that the commercial wires are used for such a transfer and a charge is made to cover the cost of the telegram.

4. THE INTERDISTRICT SETTLEMENT FUND

The Interdistrict Settlement Fund is the keystone of the clearing and collecting arch. It bears about the same relation to the twelve Reserve banks as the legal reserve deposits of one Reserve bank bear to the member banks of its district. The fund exists as a gold credit at the United States Treasury for the account of the Board of Governors. Each Reserve bank holds title to a portion of the fund which represents a part of its legal reserve. On January 1, 1936, the total fund amounted to \$3,572,000,000.

The net result of one day's transit clearings through the fund is shown in Table 18. On this day, which may be regarded as typical, \$355,000,000 was cleared with a shift in ownership

of about \$15,000,000—about 4 per cent. At the close of business every day, the Reserve banks wire the Board of Governors the amount each owes to each of the others. The settling clerk of the fund enters the various debits and credits, and then wires back the result of the day's settlement.

TABLE 18.—SUMMARY OF INTERDISTRICT SETTLEMENT FUND CLEARINGS,
THURSDAY, AUGUST 26, 1926

Federal Reserve bank	Total debits	Total credits	Net debits	Net credits
Boston	\$ 30,391,740 30	\$ 24,689,155 63	\$ 5,702,484 67	
New York	112,901,326 29	109,772,940 93	3,128,385 36	
Philadelphia	26,731,864 35	25,169,187 80	1,562,676 55	
Cleveland	24,058,936 86	29,636,865 77		\$ 5,577,928 91
Richmond	21,640,328 35	22,348,233 05		707,904 70
Atlanta	11,520,971 90	14,702,554 55		3,181,582 65
Chicago	60,752,608 92	64,876,621 80		4,124,012.88
St. Louis	17,595,432 11	17,149,503 49	445,928 62	
Minneapolis	7,090,649.08	8,491,304 82		1,400,655 74
Kansas City	16,986,245 69	16,382,312 88	603,932 81	
Dallas	11,366,309 70	9,997,445 28	1,368,864 42	
San Francisco	13,490,192 31	11,310,479 86	2,179,712 45	
Total	\$354,526,605 86	\$354,526,605 86	\$14,992,084 88	\$14,992,084 88

SOURCE: Board of Governors

Shifts of ownership in the fund thus occur from day to day as a consequence of transit clearings, interdistrict transfers for member banks, for the Treasury, or for the Reserve banks themselves growing out of interdistrict rediscounts or security transactions. In addition, Federal Reserve notes are cleared through the fund. During 1935 transit clearings through the fund amounted to \$91,000,000,000, inter-Reserve bank transfers to \$1,472,000,000, and Federal Reserve note clearings to \$644,000,000.¹

5. NONCASH COLLECTIONS

The Reserve banks also collect notes, drafts, bills of exchange, and bond coupons for member banks without charge. Reserve credit is not given on this type of collection, of course, until

¹ *Annual Report of Board of Governors*, 1935, p. 99.

payment is actually received. During 1935 about 30,000,000 such items amounting to nearly \$9,000,000,000 were handled.¹

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¹ *Ibid.*, p. 46.

CHAPTER XVIII

BANK RESERVES

Bank reserves may well be thought of as a focal point around which cluster many problems of bank management and monetary regulation. The basic importance of reserves arises from their position as the foundation of the credit structure. Up to this point the reserve of a bank has been treated simply as a fund to meet all probable deposit withdrawals. But the reserve question is actually much more complex, as the following list of problems should indicate.

The reserve fund is not homogeneous; it consists of separate elements that vary widely among banks and in the same bank at different times. Various factors govern the need for reserves. Reserves are reduced in certain ways and are restored in other ways. Working reserves differ from legal reserves. Present legal requirements, moreover, have evolved only after experimentation and change. But defects still remain, and reserve reform has recently received a renewed emphasis. These and other related matters are discussed in the present chapter.

I. WORKING RESERVES

At the outset, the distinction should be drawn between working reserves and legal reserves. As the terms imply, the former represent the amount of immediately available funds which a bank sees fit to hold against the probability of deposit withdrawals. These funds, usually designated "primary reserves" consist of cash in vault, deposits with a Federal Reserve bank, and checking balances maintained with correspondent banks. Their amount is essentially a problem of individual bank management. Legal reserves, on the other hand, are entirely a question of requirements imposed by law. They may be broadly defined so as nearly to coincide with working reserves. This was true under the old National Bank Act. Or they may be narrowly defined, as under the Federal Reserve System, to

include only a part of the working reserve. Furthermore, with the growing importance of central banking, legal reserves have assumed a new significance in connection with the regulation of credit. In this section attention is centered on the broader category, working reserves.

1. THE NEED FOR RESERVES

The need for reserves of cash is not confined to commercial banks. Individuals find it convenient to hold a part of their resources in pocket money or in a checking balance despite the fact that such funds yield no interest. Income and expenditures are rarely, if ever, perfectly synchronized. A reserve is needed, therefore, to strike a balance between them. In addition, unforeseen contingencies arise and unusual bargains appear from time to time, both of which call for immediate purchasing power. For similar reasons, business concerns keep till money and maintain checking balances. Commercial banks however, are faced with a special reserve problem arising from the fact that their liabilities consist principally of demand deposits. Failure to meet customer withdrawals means insolvency. Obviously, the reserve position requires close attention. By way of contrast, the ordinary business concern is able to budget rather accurately for known outlays and is often able to secure extensions of time on outstanding indebtedness.

In actual practice, however, a bank's position is less different than it first appears. A primary reserve of between 15 and 25 per cent against demand deposits is ordinarily sufficient. This is a surprisingly small proportion when it is remembered that customers may call for their money whenever they choose. How can such a small reserve be adequate? The answer is quite simple. Business corporations and others keep their store of ready purchasing power largely in the convenient form of checking accounts. A check drawn on one bank shortly reappears as a new deposit in another bank, or even in the same one, without causing any change in total deposits. Likewise, cash withdrawn for retail trade or pay rolls is soon redeposited. The aggregate of deposits, therefore, is usually quite stable. A bank then is concerned mainly with what is most likely to happen to its share of total deposits. And the share of an established institution seldom fluctuates very widely. The banker does not

actually depend upon his reserve so much as he does upon the expectation that an inflow of new deposits will match customer withdrawals. The reserve is held only to meet the contingency that either a stoppage of the inflow or an acceleration of the outgo may occur. Experience shows that this contingency is provided for, except in time of panic, by the percentages cited above.

2. FACTORS GOVERNING NEEDED WORKING RESERVES

The need for primary reserve varies considerably among banks and in the same bank. Since the reserve fund bears no interest, most institutions study these variations carefully from day to day. With an eye on profits, they naturally try to keep earning assets at a maximum and reserves at the minimum consistent with safety. There are four main factors that govern the amount of working reserve required by the individual bank, as follows: (1) the irregularity of deposits; (2) the variability of customers' borrowing needs; (3) the nature of secondary reserves; and (4) the character of reserve organization in the banking system.

By irregularity is meant the extent of day-to-day fluctuations in the amount of a bank's deposits. Emphasis is placed on downward rather than upward change since only the former constitutes a drain on reserves. As an illustration, let us take the cases of Bank A and Bank B, each with average deposits of \$1,000,000. Now if Bank A's deposits frequently drop to \$900,000 and occasionally to \$800,000 while B's frequently drop to \$950,000 and occasionally to \$900,000, the working reserve of the former, other things being equal, would need to be twice as large. The influences which determine the degree of deposit irregularity in a bank may be grouped under two heads: (1) the number of depositors; and (2) the character of the deposits. Little explanation of the first is required. If the bulk of a bank's deposits is widely distributed among many customers, it is obvious that less probability of deposit loss exists than if the deposits belong to a very few people. The law of averages can be depended upon only when a sufficiently large number of cases is included. This condition must be met before a smooth offsetting of deposit credits and debits can be expected.

With respect to the character of deposits, great differences affecting irregularity exist. The short fluctuations of bankers' deposits are about twice as great as those of individual demand deposits. It is not uncommon for a large bank to lose 20 per cent of its bankers' deposits in a single day, whereas the daily net withdrawal of individual deposits seldom reaches 10 per cent.¹ The size distribution of accounts is also a determinant of irregularity. A few large accounts may easily offset the stabilizing influence of a large number of small ones. In this connection, Federal, state, and municipal deposits are frequently a source of embarrassment to banks, for, while such accounts may be left undisturbed for a considerable period, they are often withdrawn entirely within a day or so. Time deposits, of course, show far greater stability than any other class.

A distinction should here be emphasized between activity or turnover of deposits and irregularity, since the former has been officially proposed as a basis for legal reserve requirements. Deposit turnover is relevant to the problem of working primary reserves only insofar as it accounts for irregularity. And while in general there is considerable correlation between them, there may be little or none at times for particular banks. Active accounts in which inflow closely matches outgo represent less of a burden upon reserves than slowly turning deposits that are largely withdrawn from time to time. There are also great differences affecting irregularity within each of the main classes of deposits, giving each bank a special problem of its own. Banks located in the resort cities of Florida, for example, receive large additional deposits in the winter months and lose them in the spring. The deposits of a bank serving a college community expand sharply in the fall and decrease at the end of the term, with smaller variations marking holidays and vacations. In fact, the deposit variations of almost all banks differ sharply from any average pattern because of seasonal and other peculiarities in the business or habits of their customers.

The second main factor refers to whether the loan requirements of customers are well distributed throughout the year or bunched irregularly at certain seasons. A bank must generally count on

¹ See R. G. Rodkey, *Legal Reserves in American Banking* (Michigan Business Studies, Vol. VI, No. 5, Ann Arbor, University of Michigan, 1934), Ch. IX.

losing reserve to almost the amount of the new loans granted. Customers borrow only when they need additional money to meet their obligations. Most of the checks drawn are deposited in other banks and consequently drain away reserves when presented for payment through collection channels.

The term "secondary reserves" is commonly used to apply to the part of a bank's earning assets that can be readily turned into cash on short notice and without appreciable loss. Such assets include bankers' acceptances, commercial paper eligible for rediscount, call loans, United States Government obligations, and other readily marketable short-term securities. Insofar as commitments are restricted to these easily shiftable types, the need for primary reserves is reduced. On the other hand, the bank that is weighted with slow assets should compensate by keeping a large primary reserve. Incidentally, it should be noted that the ability to convert secondary reserves into cash depends on the existence of broad security markets and on the rediscount facilities of a central bank. At a time of crisis such as February-March, 1933, when a general liquidation movement is under way, secondary reserves lose their liquidity unless the central bank is willing to take them over or the Treasury sees fit to release funds to the market. In the absence of such support the normally self-liquidating or highly marketable assets become almost as tightly frozen as real-estate mortgages.

Finally, the character of the reserve organization in a banking system has much to do with the amount of needed working reserves. Under the Federal Reserve System individual banks are able to reduce the amount of their nonearning assets for various reasons. Among these are concentration of ultimate reserves in one great pool with a resultant increase of efficiency; rediscount facilities which impart liquidity to a substantial part of earning assets; provision for an elastic and readily available currency; and, finally, a greater measure of public confidence in banks owing to the support and control of a central bank.

3. COMPONENTS OF PRIMARY RESERVES

Some notion of the relative importance of the primary reserve components may be gained from Table 19. The three dates selected show the percentages immediately after the present legal

requirements were put into effect, just before the sharp liquidation of bank credit developed in the present depression, and for a recent date. Gross demand deposits were used rather than total deposits since time deposits require only a small amount of primary reserves and their inclusion would distort the results. It should be observed that cash in vault is by far the smallest element, and that it has declined sharply in importance since

TABLE 19.—PRIMARY RESERVE RATIOS FOR NATIONAL BANKS ON SELECTED DATES

A. Proportion of Primary Reserve Components to Total Primary Reserves

Reserve items	1917 %	1930 %	1936 %
Cash in vault	15 6	7 3	6.3
Due from banks	51 5	62.0	51 6
Reserve with Federal Reserve bank	32.9	30.7	42.1
Total reserve	100 0	100.0	100.0

B. Proportion of Primary Reserve Components to Gross Demand Deposits

Reserve items	1917 %	1930 %	1936 %
Cash in vault	4.5	2.5	2.7
Due from banks	14 8	20.9	22.6
Reserve with Federal Reserve bank	9.4	10 4	18.5
Total reserve	28.7	33.8	43.8

SOURCE. Gross demand deposits include: individual deposits; due to banks; certified and cashiers' checks, United States deposits; deposits of states, counties, and municipalities; and postal savings deposits. The call report dates used are September 11, 1917, Sept. 24, 1930, and June 30, 1936.

1917. For this decline two facts are largely responsible. The use of check currency has continued to grow relative to cash; and second, the development of Federal Reserve facilities—both new branches and additional services—has brought the ultimate cash supply very close to all city banks and much nearer to outlying banks. This, of course, reduces the need for a large stock of cash in vault. The need varies, however, with the character of operations and with location. New York City banks require vault cash only to the extent of about 1 per cent of their

gross demand deposits while country banks require around 5 per cent.

Another fact which the table brings out is that checking balances with correspondent banks represent the largest primary reserve component. Moreover, between 1917 and 1930, such balances increased in relation to vault cash and reserve with the Federal Reserve banks. The explanation of this is found in the reasons cited above for the decline of vault cash combined with the fact that interest of about 2 per cent was commonly paid on bankers' deposits. Since the other components yielded no direct return, bankers naturally kept them as small as possible. This incentive has been lacking, however, since the Banking Act of 1933, which prohibited the payment of interest on demand deposits. At present, the form in which excess reserves exist is almost immaterial to the banker, as is attested by the large decline of bankers' deposits in 1936 relative to balances with the Reserve banks. This decline may become even more noticeable when a more complete utilization of reserves is required.

There seems little likelihood, however, of the displacement of bankers' balances as the largest primary reserve element for a long time to come, despite the removal of the interest allowance. These deposits serve several other purposes. Nonmember banks will continue to maintain a large part of their legal reserves in this form; most interior banks will need such balances for both domestic and foreign exchange purposes; many country and reserve city banks will continue to value their credit lines with large city banks; and credit information, collection service, and other minor services associated with these balances will be required. It should also be noted that, as with vault cash, the importance of "due from banks" varies widely with the different classes of banks. While in country banks the item usually represents 60 per cent or more of total primary reserves, it is barely 10 to 12 per cent in New York City. The reserve city banks take an in-between position with 45 to 50 per cent in this form.

The third reserve component, reserve with the Federal Reserve bank, is treated more fully at a later point and, for this reason, only the essentials need be given here. Except under abnormal conditions, the ratio of this element to gross demand deposits remains relatively steady. A penalty tax effectively

keeps the ratio up to legal requirements, and the profit motive usually keeps it from rising much above the level. The huge amount of artificially created excess reserves existing at present¹ has brought the ratio to the highest point in the history of the Federal Reserve System. On the average, legal reserves are approximately one-third of primary reserves. But again, there are differences among banks. In New York City this element is above 80 per cent of total primary reserves while in many country banks it is well below 30 per cent.

Whenever the need arises, a bank may quickly convert one form of primary reserve into another. Excessive vault cash may be shipped to the Federal Reserve banks for reserve credit at the latter's expense. A cash deficiency may be remedied by the reverse process. Transfers between checking balances with correspondents and the legal reserve balance may also be made by check or by wire.

4. HOW PRIMARY RESERVES ARE LOST

There are three ways in which a bank may lose primary reserves: (1) customers may withdraw deposits in cash; (2) customers may write checks which are deposited in other banks; and (3) the bank itself may purchase investments, supplies, etc., by drawing on primary reserves.

Cash is used in this country chiefly for wage payments and for retail-trade expenditures. These requirements show certain regular variations that are reflected in cash withdrawals and deposits at the banks. On the last two or three days of each week and at the end of each month withdrawals of cash take place to meet pay rolls. Similarly, retail expenditures require more cash preceding holidays and during the active buying seasons, particularly in December. Each bank learns from experience to anticipate the peculiar cash habits of its own customers. In periods of financial crisis, moreover, when confidence in banks becomes impaired, cash is demanded as a storer of value. For a good example of this one need only to recall the difficult period, 1931-1933. Ordinarily, however, cash which is called out of the banks returns as soon as the public need subsides.

¹ January, 1937.

But the most important drain on reserves occurs as a result of customers paying their bills by check. Most of these checks are deposited in other banks. The largest part of them usually returns through the clearinghouse, and the remainder comes back through the Federal Reserve collection system or other collection channels. In any event, if the amount of these checks exceeds the amount of deposited checks drawn on other banks, the balance must be settled with reserves. Usually this settlement is effected by the transfer of reserves at the Federal Reserve bank. A bank loses reserve in this manner as a result of three circumstances: (1) loans are being expanded at a more rapid rate than in other banks; (2) primary deposits are being lost to other banks; or (3) the local balance of payments is temporarily adverse, *i.e.*, purchases are exceeding sales so that outpayments overbalance the inflow of funds.

The last way that reserves are lost may be made clear by a simple example. Let us suppose that a large city bank, finding its primary reserves to be \$1,000,000 above requirements, decides to buy that amount of railroad bonds. Accordingly, the order is placed with an investment house by the appropriate officer, and payment is made by a check drawn upon a correspondent bank or upon the Federal Reserve bank.

5. HOW PRIMARY RESERVES ARE GAINED

The primary reserves of a bank may be built up in the following ways: (1) by the conversion of earning assets; (2) by borrowing from other banks; and (3) by the growth of primary deposits. The simplest method of converting earning assets is through the open markets. Marketable securities may be sold or brokers' loans may be called. It is also possible to exert pressure on customers to repay loans and at the same time to refuse new loan applications. This can be done, however, only within narrow limits without creating customer ill will. Rather than risk the loss of business it is usually advisable to turn to the second method of borrowing reserves. Borrowing is most likely to be done at the Federal Reserve bank of the district on the basis of eligible assets but credit is also frequently extended by correspondent banks. The third way of enlarging reserves is seldom of any practical importance. Primary deposits are gained when cash returns to the bank, when other banks are expanding their

credit more rapidly, or when competitive gains in new business are being realized. It is evident that the bank has no control whatever over the first two of these and that competitive gains of deposits are highly uncertain.

II. LEGAL RESERVES

The United States stands alone among the principal countries in the matter of prescribing by law minimum reserves that commercial banks must maintain against their deposits. Largely owing to greater banking concentration and to higher professional standards, other countries have been able to leave the type and amount of primary reserves to the discretion of management. But with the thousands of small unit banks that were established under our free banking system, stricter regulation proved to be expedient.

1. EVOLUTION OF LEGAL RESERVES AGAINST DEPOSITS¹

In the state banking era before the Civil War, reserve regulation was confined almost exclusively to bank notes. This is understandable for two reasons. First, notes represented a larger part of bank liabilities in this period. The dominance of the check did not come until after about 1870. In 1840, the volume of circulating notes was \$107,000,000 as compared with \$76,000,000 of deposits. By 1850, the amounts were \$131,000,000 and \$109,000,000, respectively. After 1855 total deposits exceeded notes, but this was then true only in the larger cities. Secondly, the nature of bank notes makes their regulation more imperative. In order to serve satisfactorily as hand-to-hand currency, they must have wide acceptance by persons not acquainted with the issuing bank. And, furthermore, in the absence of specific regulation, redemption is very likely to be infrequent. The nature of deposits is somewhat different. A depositor may choose his bank; and checks return promptly to the drawee bank for redemption, ordinarily effecting only one payment.

State regulation of reserves against bank notes was an outgrowth of the heavy losses suffered by noteholders in the panic

¹ Much of the material in this section has been adapted from Professor R. G. Rodkey's valuable study, *op. cit.*

of 1837. Before this time no state imposed such regulations. In the five years following the panic several states¹ adopted reserve restrictions, and many of the others followed suit before the Civil War. There were, however, only two states that extended regulation to deposits in this period. In 1842, Louisiana required that banks should hold specie reserves equal to one-third of their "cash responsibilities." And in 1858, Massachusetts passed a law providing for a reserve of 15 per cent against circulation and *deposits*. This reserve was to be kept in specie or in the form of noninterest-bearing balances in Boston and New York City banks.

From the foregoing brief survey it is evident that the framers of the National Bank Act found an established precedent for legal reserves in the experience of the states. In the act of June 3, 1864, seventeen important cities were named as redemption centers in which national banks were required to carry a reserve of 25 per cent against notes and deposits. In New York City all of the reserve had to be held in specie or lawful money. In the other sixteen redemption cities one-half of the reserve might be deposited with approved redemption agents in New York City. All other national banks (the country banks) were required to keep a reserve of 15 per cent, of which as much as three-fifths might be maintained as a deposit with approved banks in the redemption centers. The remaining two-fifths had to be held as vault cash. The following features of these requirements should be especially emphasized. First, the policy of requiring a reserve against deposits followed the precedent set by Louisiana and Massachusetts. Second, the practice of permitting balances maintained with approved banks to count as legal requirements was associated with the redemption of bank notes and was not based upon differences in the character of deposits. And last, no distinction was made between time and demand deposits.

With the exception of an increase in the number of reserve cities, the original reserve requirements against deposits in national banks remained unchanged until the Federal Reserve Act became operative in 1914. Meanwhile, practically all of the states passed or amended laws regulating the reserves of state-

¹ Virginia, 1837; Georgia and New York, 1838; Ohio, 1839; and Louisiana, 1842.

chartered banks. After 1885, the tendency of the states was to follow the example set by the National Bank Act.

2. DEFECTS OF RESERVE REGULATION UNDER THE NATIONAL BANK ACT

Although the national banking system represented an important stride forward, it was found seriously wanting in several respects. One of these was a faulty regulation of reserves which in large measure was responsible for the widespread suspension of cash payments in 1873, 1893, and 1907. The defects existing in the reserve arrangements, although closely interrelated, may conveniently be discussed under five main heads.

In the first place, there was a lack of proper reserve centralization. Since country banks and reserve city banks, respectively, were required to keep at least 6 per cent and $12\frac{1}{2}$ per cent of deposits as cash in their own vaults, an inefficient *scattering* of reserve power was the result. In fact, owing to the inelasticity of the whole system, the banks held more cash than was required so that the dispersion was somewhat greater than these legal percentages indicate. To illustrate this point Professor Kemmerer has used an apt military analogy.¹ A perfectly drilled and equipped army would be powerless to check an invasion if subdivided into some 30,000 squads each under the control of local officers. Full fighting strength could be attained only by the combination of these squads into one or a few armies under centralized direction. Moreover, fighting efficiency would require a high degree of *mobility* so that the defensive forces might be quickly massed at any point of attack. In considerable degree, then, reserves failed to perform their function because they were *scattered* and, partly as a result, because they were *immobile*.

But the character of reserve centralization, rather than the lack of it, constituted a far more serious defect. For various reasons, including the interest allowance, the country banks deposited nearly as much of their reserve as was legally possible (three-fifths) in reserve and central reserve cities; and the reserve city banks, in turn, deposited almost half of their reserve in the central reserve cities. As the following facts bring out, the

¹ E. W. Kemmerer, *The ABC of the Federal Reserve System* (Princeton, Princeton University Press, 1926), p. 6.

result of this system of pyramiding was the concentration of final reserve responsibility with a very few large banks in New York City. After 1902, the national banks in New York City held approximately one-third of the total bankers' deposits of all national banks. And on October 21, 1913, over 72 per cent of the bankers' deposits of national banks in New York City were held by eight institutions. Furthermore, these eight banks held balances for three-fifths of the 25,000 banks in the country.¹ There was nothing to fear from this concentration in itself. Indeed, it was highly desirable on the assumption of proper administration of the deposited reserves. But here was the catch—which brings us to the next point.

Secondly, there was a lack of surplus reserve power in the banking system to draw upon in times of strain or crisis. This serious defect was the outgrowth of two others: (1) the unfitness of New York City banks as reserve depositories; and (2) the rigidity of legal reserve requirements. Since the reserve depositories were profit-making institutions they followed the practice of employing their reserves up to the legal limit. In fact, the interest allowance and other expenses of serving correspondents left no alternative except to withdraw from this type of business. The major outlet for such funds was the stock exchange call-loan market which supplied stock brokers with funds to finance the margin trading of their customers. Loans made on one day might be terminated on the next day by either party. This appeared on the surface to be an ideal sort of commitment for these volatile reserves. The market exhibited a fair capacity to absorb inflowing funds; and loans could be immediately called when an interior bank withdrew reserves. When one New York City bank was calling loans, some of the others would have excess reserve and could take them over. In this way, margin calls and forced selling of securities were avoided with a minimum of disturbance to the stock market.

But in times of strain or crisis, the situation took on a very different aspect. The withdrawals of some interior banks were not balanced by the deposits of others. All New York banks were called upon to return reserves at the same time. Under these conditions loans could be called only within very narrow

¹L. L. WATKINS, *Bankers' Balances*, (New York, McGraw-Hill Book Company, Inc., 1929), p. 21.

limits. Such a step would have precipitated a disastrous liquidation of securities since there was no institution in position to take over the called loans. Brokers would have been forced either to forfeit their securities or to dump them on the market for whatever they would bring. Of course, this would have been intolerable. The final upshot was that cash payments were suspended in New York before interior banks were able to withdraw any substantial part of their reserves. In the panic of 1907, for example, when suspension was nationwide, the bankers' balances of national banks in New York City declined from \$429,000,000 to \$416,000,000, or by only 3 per cent.¹ This nominal decrease is partly to be explained by another pressure which fell upon the reserves of the central money market. Since interior banks rather generally called their stock exchange loans at such times, it was necessary for the New York banks to fill the breach. In 1907, this required a collateral loan expansion of \$58,000,000.²

The periods of strain, moreover, were not confined to cyclical disturbances of the 1907 type. During the last five months of the year, New York City banks normally lost cash reserves to the interior banks of between \$50,000,000 and \$100,000,000. This was largely due to the crop-moving requirements of the South and Middle West. The result was a regularly recurring season of strain on the New York banks accompanied by sharply higher money rates. The peak usually came in September or October. When it happened that an emergency or cyclical disturbance was superimposed upon regular autumn requirements, a general suspension was almost inevitable.

The rigidity of legal reserve requirements was also responsible in some measure for the lack of sufficient surplus reserve power. The law prevented a national bank from increasing its liabilities by making new loans and from paying dividends while its reserves were below legal requirements. In addition, the Comptroller of the Currency *might* notify any association whose reserve was deficient, and, after notice, *might* appoint a receiver if the reserve were not made good in thirty days. Since the administration of this discretionary provision was always prudently lenient, there

¹ O. M. W. Sprague, *History of Crises under the National Banking System* (Washington, Government Printing Office, 1910), p. 313.

² *Ibid.*, p. 301.

was scarcely reason for the New York City banks to violate the well-recognized rule for sound practice during a crisis, *viz*, to pay out reserves freely as long as there remains a possibility of allaying the panic. The banks, however, made a fetish of the 25 per cent legal minimum. At no time in either 1893 or 1907 did the reserve ratio of the New York City national banks drop below 20 per cent of deposits. But the law was rigid regarding loan expansion during a crisis. Banks were in fact prevented from following the second rule of good practice at such times, *viz.*, the meeting of all legitimate loan applications as a means of easing tension.¹

What was the remedy for this lack of reserve power? The answer to this question leads us to the next main defect: a lack of centralized reserve control. The great need was for some central agency to hold the pooled reserves and to administer them for the common good. It must hold in normal times a safe margin of final reserves for use in periods of strain; and it must have the capacity, through the expansion of its own credit (by rediscount and security purchases) to expand the *total* reserves of the commercial banks. In addition, it must have the power to influence gold movements and the volume of checking deposits in the country. This would require authority over rediscount rates, the ability to expand and contract its own credit, and the power to change legal reserve requirements. In practice, such an agency would most likely take the form of a nonprofit central bank. We have already seen how the Federal Reserve System remedied this difficulty.

A fourth defect was the lack of sufficient discrimination in setting reserve requirements. Location was made the basis on the assumption that there was a sharp line of distinction between the three groups,² and that the reserve responsibilities of all banks within each group were uniform. Neither of these assumptions was, in fact, justified. There were many country banks whose real need for primary reserves was greater than that of the smaller banks in reserve or central reserve cities. Yet the latter were subject to far more onerous requirements. Moreover,

¹ See Rodkey, *op cit.*, p. 54.

² In 1913, New York City, Chicago, and St. Louis were the central reserve cities; the reserve city group included 47 other cities; and all other banks were in the "country" bank classification.

there was no distinction drawn between the different types of deposits, except insofar as the location basis had this result. As mentioned before, the irregularity of bankers' deposits is about twice as great as that of individual demand deposits, and savings deposits in turn are far more stable than the latter. This obviously worked a hardship on all institutions with large savings deposits. Indeed, the penalty was so great that central reserve city banks held only negligible amounts of such deposits. Although any practicable legal reserve must average out individual differences in some degree, the requirements of the National Bank Act disregarded these differences almost to the point of absurdity.

Lastly, the reserves were nominal to a considerable extent. As a result of the system of pyramiding, the primary reserves of country and reserve city banks consisted in large part not of cash but of deposits with approved agents. For the former the proportion was about two-thirds and for the latter it was approximately one-half. Assuming a full use of the redeposit privilege, the required cash behind a \$100 deposit in a country bank was only \$7.41 as compared with an apparent \$15.00; for a reserve city bank the cash was \$15.63 as compared with a nominal \$25.00. For the individual bank in normal times these deposited reserves were real but, as we have seen, they became unavailable in a crisis. There was also a further reason why reserves were fictitious. Checks in process of collection, known as the "float," were counted as reserve the moment they were placed in the mail. Since these items were not actually available until from one to fifteen days later, a large overstatement of actual free balances resulted. This overstatement was magnified by the prevailing roundabout methods of check collection. In 1913, the float was estimated to be as much as \$500,000,000 as compared with redeposited reserves of about \$800,000,000.¹

3. LEGAL RESERVES UNDER THE FEDERAL RESERVE ACT

a. Elimination of Previous Defects

One of the principal reasons for establishing the Federal Reserve System was to reform the organization and administra-

¹L. L. Watkins, *Bankers' Balances*, (New York, McGraw-Hill Book Company, Inc., 1929), p. 68.

tion of reserves. The aim was to eliminate the defects just discussed, and in large part this purpose was achieved. At the present time,¹ all legal reserves consist of balances maintained with the Federal Reserve banks. Neither vault cash nor correspondent balances qualify. For central reserve cities the basic requirement is 13 per cent of net demand deposits; for reserve city banks 10 per cent; and for country banks 7 per cent. Against time deposits a uniform reserve of 3 per cent applies. The ultimate reserves of gold and silver bullion are centralized in the United States Treasury while the bulk of lawful money reserves is held by the Federal Reserve banks against their liabilities. These banks must keep lawful money equal to at least 35 per cent of their deposits (mainly legal reserve balances); but in practice, they ordinarily hold a much larger reserve.

In effect one great reserve pool exists because the Board of Governors may compel the separate Reserve banks to equalize reserves by interdistrict loans. In these ways an effective pooling of final reserves with semipublic institutions is achieved so that adequate surplus reserve power is available. Control of legal reserves is centered in the Board of Governors. Through open-market operations and the rediscount rate they are able to change the volume of member bank reserves; and, in addition, they are empowered to raise (but not to lower) the legal requirements of member banks by as much as twice their amount on August 23, 1935, should inflationary developments warrant. This power was used for the first time on August 15, 1936, when a 50 per cent increase became effective. Then at the end of January, 1937, the Board announced another increase of $33\frac{1}{3}$ per cent that became effective on May 1, 1937. This raised reserves to the full limit permitted by law, *i.e.*, the respective percentages applying to net demand deposits became 26, 20, and 14; and the percentage against time deposits became 6. Despite the fact that the two increases enlarged requirements by about \$3,000,000,000, excess reserves of over \$900,000,000 were reported at mid-July, 1937.

Thus, the Board possesses a powerful influence over such broad factors as the supply of money, the demand for money, the price level, price relationships, interest rates, exchange rates, gold movements, and maintenance of the monetary standard. Its

¹ July, 1937.

policies, therefore, good or bad, sway the still more fundamental factors: national income, income distribution, business stability, and the volume of employment.

The rigidity of reserve regulations was largely removed by two important powers granted to the Board. It was given the right to suspend all reserve requirements specified in the act. Second, it was directed to impose suitable penalties for reserve deficiencies of member banks. No use has thus far been made of the first of these. The penalty prescribed on reserve deficiencies is at present a charge of 2 per cent above the current ninety-day rediscount rate. Members, therefore, rebuild their reserves by borrowing in preference to paying the penalty. In this same connection, the ability to build up depleted reserves by rediscounting eliminates any rigid effects of the fixed reserve ratios.

b. Evolution of Present Requirements

The present reserve regulations, however, do not date back to the beginning of the Federal Reserve System. The original act set the reserves of the three groups of member banks at 18, 15, and 12 per cent of net demand deposits, respectively, and named a uniform requirement of 5 per cent against time deposits. After a three-year transition period, at least one-third of the reserve was to be kept in vault and as much as about 60 per cent¹ could be held in this form. The rest was to be deposited in the Federal Reserve bank. In order to avoid undue hardships, provision was made for the gradual transfer of reserves previously maintained with reserve agents. Before the end of the transition period, however, two amendments were passed, both with the main objective of centralizing gold reserves during the World War. The first, in September, 1916, permitted members to carry all their legal reserve as a balance with the Federal Reserve bank, thus eliminating the minimum vault cash regulation. The second, in June, 1917, required that *all* legal reserve be maintained with the Federal Reserve bank. Since vault cash could no longer be counted, the percentages were reduced to 13, 10, and 7 against net demand deposits, and to 3 per cent for time deposits.

¹ 61.1 per cent for central reserve cities; 60 per cent for reserve cities; and 58.3 per cent for country banks.

No further change was made in reserve regulations applying to deposits until the Inflation Act of May, 1933. During the national emergency the Board was authorized to change legal requirements against the deposits of member banks. This constituted a most important and essential new implement of credit control. It was made permanent, as we have seen, in the Banking Act of 1935 although the power was limited to a possible doubling of legal reserves. This latter act also extended the Board's authority over open-market operations so that it is now enabled to influence in greater degree the volume of member bank reserves.

c. Reserves Reduced

Although working reserves have been substantially reduced under the Federal Reserve System, the actual reduction is less than the lowered legal percentages seem to indicate. Under the old system both vault cash and bankers' deposits qualified as legal reserves; but neither one can now be included. The combined amount of these needed for operating purposes normally exceeds total legal reserve balances.

A more definite idea of the actual reduction brought about in *working* reserves may be gained from Table 20. In 1922, the

TABLE 20.—REDUCTION IN WORKING RESERVES OF NATIONAL BANKS
BETWEEN 1914 AND 1922
(Percentage of gross deposits)

Working reserves	June 30, 1914	June 30, 1922	Percentage reduction
Cash	11 9	2 0	83 2
Due from banks	16 2	7 6	53 1
Reserve with Federal Reserve banks . . . . .	. . .	7 0	
Collection items with Federal Reserve banks . . . . .	. . .	2 2	
Total working reserve	28 1	18 8	33 1

SOURCE: Adapted from *Letters to College Classes on the Practical Operations of the Federal Reserve System*, Letter 18 (1925)

proportion of working reserves needed was about one-third less than before the Federal Reserve System. This reduction, it will be observed, was due principally to the lowered requirements for vault cash. The ultimate effect was inflationary in that the

released reserves became the basis for a multiple credit expansion in the banking system.

d. Computation of Legal Reserves

The method of computing legal reserves is changed by the Banking Act of 1935. The provision now reads as follows: "In estimating the reserve balances required by this act, member banks may deduct from the amount of their gross demand deposits the amounts of balances due from other banks (except Federal Reserve banks and foreign banks) and cash items in process of collection payable immediately upon presentation in the United States, within the meaning of the terms as defined by the Board of Governors of the Federal Reserve System."¹ Gross demand deposits include individual and government deposits, balances due to domestic or foreign banks, certified checks, cashiers' or treasurers' checks, and letters of credit or travelers' checks sold for cash. Postal savings deposits and time deposits are subject to the basic 3 per cent requirement.

These changes correct two defects of the previous regulations. Deposits of the United States Government are again made subject to legal reserve requirements. They were exempted in 1917 as a war measure, but there was no logical reason for continuing the exemption in peacetime. The effect of their withdrawal upon a bank's primary reserve position is the same as for other deposits; they are probably more irregular than ordinary checking accounts; and they form a part of the monetary supply just as do individual demand deposits. Their inclusion, furthermore, eliminates frequent disturbances of the money market occasioned by transfer of deposits between private and Government accounts with member banks. Previously a shift of funds to the Treasury released reserves and tended to cause lower rates; transfers by the Treasury had the opposite effect.

The second defect which is corrected has to do with the deductions from deposit accounts for reserve purposes. Under the old regulation the "due from banks" item could be deducted only from "due to banks"—not from gross deposits as at present. This method was unfair to country banks since they were unable to deduct the greater part of their balances with correspondents. City banks, on the other hand, could deduct the entire amount of

¹ Federal Reserve Act, Section, 19, par. 10.

their "due from" item. The old regulation also tended to complicate the problem of credit control for the Reserve authorities. In periods of declining business activity balances of interior banks piled up in New York City and Chicago and became subject to the 13 per cent requirement. Since interior banks were unable to make a corresponding deduction in computing their reserves, the net effect for the country was to increase the amount of required legal reserve. This increase usually worked at cross purposes with Reserve credit policy. At such times the Reserve authorities ordinarily attempt to lower money rates by creating *excess* reserves. In boom periods, the offset to prevailing Reserve credit policy was very likely to be even more serious. The recall of balances by interior banks reduced total legal requirements and consequently gave further impetus to credit expansion.

The net effect of these two changes on total required reserves was unimportant. The added reserve against Government deposits was approximately offset by the new deductions permitted. There was, however, a considerable change in the distribution of the reserve burden. City banks hold the bulk of United States deposits and gain little or nothing from the deductions. Their requirements were increased between 50 and 150 millions of dollars. Country banks, on the other hand, hold a relatively small amount of United States deposits, and gained most of the benefits from the new deductions.

e. Legal Reserve Reform

A sharp difference of opinion exists among students of banking with respect to the function of *legal* reserves. The historical or traditional viewpoint is that the dominant function of legal reserves is to assure the liquidity (or solvency) of the individual bank. In recent years, however, many have come to believe that the major function of such reserves is to further the effective control of credit by the central-banking authorities. They admit the importance of legal requirements in assuring liquidity before the establishment of the Federal Reserve System. But they deny that legal reserves are needed for this purpose under conditions of modern central banking. A member bank may now build up legal reserve or cash very quickly by borrowing at the Reserve bank. Its liquidity is therefore, so they contend, determined

mainly by the character of earning assets, *i.e.*, the proportion eligible for Reserve borrowing and readily salable.¹

Particular emphasis is placed upon this wide difference of opinion because the issue involved reaches far beyond the academic field. The traditional view logically calls for one type of plan for legal reserves while the newer viewpoint leads to a quite different sort of proposal. If the legal reserve is designed to assure liquidity, every bank should keep a reserve determined principally by the *irregularity* of its deposits. In general, the reserve required against bankers' deposits should be about twice that required for individual demand deposits; and the reserve required for savings deposits should be several times smaller than the latter. Stated differently, legal reserves should correspond with, or be held in a definite ratio to, working primary reserves. Any departure from this basis (necessarily involving inequities among banks) should definitely be justified by practical difficulties and costs of administration.

According to the new viewpoint, however, the system of legal reserve requirements must meet the test of promoting effective control of credit by the central-banking authorities. This requires: (1) that legal reserves be large enough to provide the Federal Reserve banks with adequate resources for credit control purposes; (2) that ample powers be given the Board to use these resources, *i.e.*, to alter their amount through open-market operations, rediscount rates, and changes in reserve requirements; and (3) that the legal reserve plan involve no hidden features which serve to complicate the credit-control problem. It is also naturally important that the requirements avoid needless inequities among banks and that they be administratively practicable.

What reserve requirements, in practice, meet the test of these criteria? Unfortunately, this question cannot be satisfactorily answered until the complicated problem of credit control has been thoroughly discussed. It will do no harm here, however, to anticipate in part the final conclusion. The legal requirement should apply only to net deposits subject to check with the exception of bankers' deposits. Time deposits should be relieved

¹ This new viewpoint is adopted in the *Report of the Committee on Bank Reserves of the Federal Reserve System*, 1931; and in Lauchlin Currie, *The Supply and Control of Money in the United States* (Cambridge, Harvard University Press, 1934).

of a reserve requirement. In other words, it should, according to these standards, apply to that part of deposits which logically constitutes monetary supply.

While the question of proper legal reserve policy with respect to time deposits and bankers' deposits is highly controversial, there remain two defects about which authorities are in general agreement. In the first place, differences in reserve requirements continue to be based upon bank location. It is unnecessary to repeat the discussion of this point.¹ Suffice it to say that if location was only roughly related to actual reserve needs under the National Bank Act, it is less so at the present time. Historically, the central reserve and reserve cities were required to hold larger reserves because they were redemption centers for national bank notes. But this reason lost its force as far back as 1874, when the redemption function was taken over by the United States Treasury. When the Reserve System was established, the classification was apparently retained only through inertia. The only conceivable reason why city banks should have been expected to hold higher reserves was their status as bankers' banks; and owing to the new functions to be assumed by the Federal Reserve banks, it was then generally anticipated that bankers' balances would largely disappear. As events developed this expectation proved to be unfounded, but the fact remains that there was no logical basis for retaining the old classification. It is ill-adapted to any reasonable system of legal reserves.

In the second place, cash in vault should be counted within reasonable limits as legal reserve. The mobilization of ultimate gold reserves, which was the reason for excluding vault cash from legal reserves in 1917, has been fully accomplished by direct methods.² Consequently, only the disadvantages of its exclusion remain. The chief disadvantage is one of equity among member banks. A recent investigation by the Board of Governors³ has established the fact that vault cash requirements are very largely determined by proximity to Federal Reserve facilities. It was found that member banks situated in the immediate vicinity of the Federal Reserve banks and their branches maintained vault

¹ See p. 303.

² Nationalization of all monetary gold by the Gold Reserve Act of 1934

³ *Report of the Committee on Bank Reserves of the Federal Reserve System*, 1931.

cash of only 1.38 per cent of net demand deposits in contrast with 4.64 per cent for all other member banks. The former group, holding 60 per cent of deposits, were able to deposit or withdraw cash at the Reserve banks within a few minutes. In order to avoid discrimination (mostly against the country banks), it seems only fair to recognize this situation in the legal requirements. The Committee on Bank Reserves proposed as a solution that the immediate-vicinity group be permitted to hold up to one-fifth of their legal reserves in vault cash, and that all other member banks be allowed to hold as much as three-fifths in such form. In principle, at least, this proposal has much to commend it. Perhaps it would be well, in addition, to give the Board power to make exceptions in individual cases.

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CHAPTER XIX

BANK LOANS AND INVESTMENTS

The volume and character of bank assets are both matters of large economic importance. Their volume, as we have seen, is the chief determinant of monetary supply in the form of demand deposits. In this connection they exert a strong influence over the system of prices upon which we largely depend for the guidance of production and distribution. The character of bank assets is also significant since the support that banks extend to each type of economic activity influences the actual course of production, *i.e.*, what products, and how much of each, shall be produced.

Although the distinction is somewhat artificial it is convenient for the purpose of discussion to divide the earning assets of banks into two broad categories: (1) loans, and (2) investments

I. BANK LOANS

Bank loans may be differentiated from bank investments in at least three ways. In the first place, a bank makes most of its loans to regular customers who maintain deposit accounts. There exists an intimate, and usually quite permanent, business relationship with the customer wherein he reveals his financial position, agrees to observe certain requirements, and expects in return that the bank will grant him loans to a reasonable amount upon request. Investments, on the other hand, are bought from noncustomers under the impersonal conditions characteristic of an open market. The qualification should be noted, however, that a small fraction of loans, between one-tenth and one-twentieth part, consists of short-term open-market paper.

Secondly, a bank loan is usually evidenced by a promissory note, the whole of which is owned by the bank, whereas a bond investment is ordinarily a fractional participation in a large obligation lodged with a trustee.

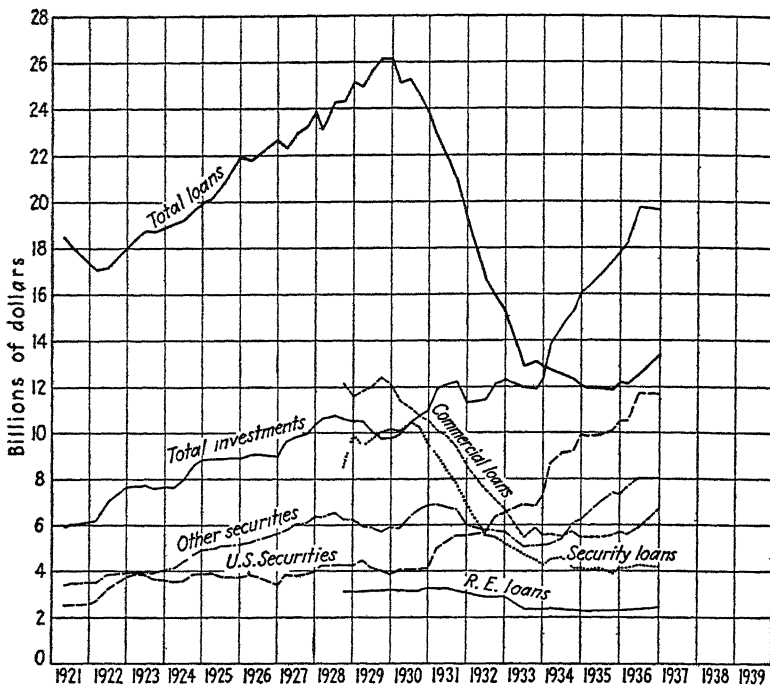
Lastly, the maturity date of bank loans is much shorter on the average than that of bonds. This reflects the fact that the

commercial loan category represents mainly the financing of working capital needs while bonds supply fixed capital funds.

1. IMPORTANCE OF LOANS TO THE BANKER

During the 1920's, bank loans represented over two-thirds of total earning assets, and were, therefore, the major source of bank

CHART 11.—LOANS AND INVESTMENTS OF ALL MEMBER BANKS, 1921-1936



(Based upon call reports of Board of Governors "Commercial loans" include "otherwise secured and unsecured" loans, acceptances, and commercial paper.)

income. In 1928, for example, the interest received on loans by member banks amounted to \$1,374,130,000 compared with a return on investments of \$498,420,000.¹ During the great depression, however, loans declined heavily while investments were greatly increased owing to the repeated Treasury deficits. In fact, since 1933 investments have been the larger of the two (see Chart 11). But in spite of this, the interest received from loans continues to exceed that from investments because of the

¹ *Annual Report of Board of Governors*, 1935, p. 158.

lower average yield on the latter. Doubtless when more normal conditions return loans will regain at least a part of their previous importance.

2. CLASSIFICATION OF BANK LOANS

Like most other statistical data, loans may be classified in a variety of ways depending upon the purpose at hand. One may be interested in the types of collateral security, the dates of maturity, the uses to which the funds are put, the size of the loan, the rates of interest, the type of loaning bank, whether the loans are made to customers or in the open market, or in a number of other possible factors. In this section, however, we shall use *purpose* as the criterion, *i.e.*, whether the loans are made to meet working capital requirements of business, to support investment or speculation, or to finance the consumer.

3. COMMERCIAL LOANS

a. Nature

The largest component of bank loans is the commercial or working capital division (see Chart 11). These loans finance the various stages of production and distribution. In particular, the proceeds are used by borrowing firms to supply cash reserves, buy inventories, finance accounts and notes receivable, and meet various current expenses including the payment of wages. A better idea of the function of such loans may be gained from the following example of how Canadian wheat reaches the ultimate English consumer.

The farmer in British Columbia borrows to buy his seed, hire labor, and meet various other expenses of growing and harvesting the crop. When the wheat is sold, he repays his bank, but the buyer of the wheat, the elevator company, borrows from its bank to pay the farmer. The elevator company ships the wheat to an export company in Montreal, which pays by borrowing in turn from its bank. The wheat is spouted into a vessel and the export company receives its bill of lading and consular invoice. These are attached to the foreign exchange draft that it draws upon the Liverpool importer. This draft is then taken to the bank and sold, and the exporter is out of the deal. When the wheat arrives in Liverpool, the bank that has made arrangements

with the importer to finance the shipment releases the bill of lading to the importer, who sells the wheat to a miller in England. The miller pays for the wheat by borrowing from his bank and thereby makes it possible for the importer in turn to pay his bank. Shortly, the wheat is converted into flour and sold to a bakery, which borrows enough money from the bank to pay for the flour. This enables the miller to pay his bank. Presently the bakery sells the bread to a grocer who may also arrange to borrow from his bank to pay the bakery. And when the ultimate consumer, living in Wood Ditton, England, pays 6*d.* for a loaf of bread, he is the last link in a productive process which from beginning to end has been financed by bank loans.

b. Credit Analysis

Commercial loans are ordinarily not protected by specific collateral security, but rest upon the earning power and credit standing of the borrower. This calls for a great deal of care in the selection of credit risks. The larger banks maintain extensive credit departments which assemble and analyze all pertinent information concerning borrowing customers. Particular emphasis is placed upon the analysis of periodic financial statements. The current income statement is studied and compared with those of previous years in order that there may be no doubt about the important factor, earning power.

Likewise, the current balance sheet is carefully analyzed to see whether net working capital is sufficient, the capital structure well balanced, and other items in proper relation. Trends of the significant items are also observed by comparison with past reports. From these, and certain financial ratios which may be compared with those of the industry, it is possible for an expert to learn a great deal about the soundness of management. A bank also considers the position and prospects of the industry to which the borrower belongs as well as the latter's standing in the trade.

c. Relations between Bank and Borrower

It is not enough, however, that an applicant for a line of credit be judged a good risk by the bank after analysis along the foregoing lines. His past relations with the bank must have been satisfactory, and he must agree to observe certain requirements

in the future. One of these is that he maintain an adequate average balance. Although the requirement is not uniform nor rigid, it is usual for a bank to insist upon observance of the so-called "20 per cent rule." This means that the customer is expected to keep an average balance equal to about 20 per cent of the line of credit to which he is entitled. Moreover, if the borrower's account is especially costly because of a large volume of collection items or great activity, the 20 per cent balance may not be sufficient. In this event he is expected either to increase his balance or to pay a service charge covering such costs.

Another requirement that a bank usually tries to enforce is that the borrower pay off his indebtedness once or twice during the year. This is designed as a liquidity test, but in practice large concerns that deal with several banks frequently meet it by simply shifting indebtedness from one bank to another.

d. Duration

The term of commercial loans corresponds roughly with the turnover period of the customer's business or the period for which he extends credit. The majority of such loans are made, therefore, for a term of thirty, sixty, or ninety days. In agriculture, however, the production period is longer and working capital loans for nine months or a year are typical. A number of lines of business also require accommodation for periods of six months or longer. But irrespective of the formal maturity period of loans, the prevalent practice of renewals at maturity leads the banks into the field of supplying long-term credit.

e. Specialized Types of Commercial Loans

While the bulk of commercial loans takes the form of unsecured promissory notes of business firms, there are several other specialized forms. In the first place, commercial loans are often collateralized by specific security. Almost any salable asset may be used for the purpose, including stocks; bonds; titles to staple commodities such as warehouse receipts, bills of lading, and trust receipts; chattel mortgages on livestock or equipment; and assigned accounts receivable.

Secondly, most banks hold as secondary reserve a certain amount of open-market commercial paper. This consists of promissory notes of business firms of such high credit standing

that they are able to borrow in the open market through commercial paper houses. Such notes are made out in round denominations, of which \$5,000 is most common, to suit the convenience of buyers. At midyear 1936, member banks, which provide the principal market, held \$278,000,000 of this paper.¹

Lastly, under the encouragement of the Federal Reserve System some progress has been made in the development of two-name paper. The most important form of this is the bankers' acceptance, used chiefly in financing foreign trade, and in the storage and shipment of staple commodities. This instrument is a time draft drawn by a seller upon the buyer's bank and accepted by the bank, after which it is usually sold in the open market on a discount basis. On June 30, 1936, member banks held such acceptances in the amount of \$279,000,000.

An effort was also made by the Reserve System to introduce the trade acceptance as a substitute for the prevailing use of open book credit. This instrument is a time draft drawn by a seller upon a buyer for the amount of the purchase price and accepted by the latter. Upon acceptance, the seller ordinarily discounts the bill at his bank, so that many banks own small amounts of such trade bills. Although the trade acceptance is widely employed in Europe, little progress has been made with its use in this country. In fact, the practice of using trade acceptances in connection with poor credit risks, while the better risks are permitted to buy on open account, has seriously damaged the instrument's reputation.

f. Declining Importance of Commercial Loans

Since the World War a striking decline in the relative importance of commercial loans has taken place. If we go back to June 30, 1920, they represented 75 per cent of the total loans of national banks; by 1929 the proportion stood at 53 per cent; and by 1936 at 51 per cent. Various reasons are responsible for this decline, such as raising working capital by the sale of securities, changed inventory policies, and conservative dividend policies.

Many business corporations raised working capital through the sale of stocks and bonds instead of borrowing at banks. This was partly a consequence of a favorable investment market,

¹ *Federal Reserve Bulletin*, November, 1936, p. 894.

particularly with respect to stocks, and partly a result of the accelerated growth of large enterprise. The growth of chain stores, consolidations in the fields of distribution and manufacture, and the mushroom rise of holding companies, gave a far larger section of enterprise access to the investment market. In addition to the fact that it was often cheaper to raise funds in this manner, business management preferred a position of complete independence of the banks.

Another important factor was the change in inventory policy. A number of business corporations lost large amounts of money during the depression of 1920-1921 because of their high-priced inventory. Mindful of this lesson, these enterprises held smaller inventories and tried for a more frequent turnover in sales. This policy was assisted greatly by the improved transportation system, better coordinated production and selling, and the increased use of budgets.

The changed dividend policy of many business corporations also assisted to bring about a reduction in commercial loans. After the depression of 1920-1921, corporations paid out a smaller percentage of their profits to stockholders. This built up their cash resources so that there was less need for bank loans. Incidentally, the tax upon undistributed corporate profits that became effective in 1936 has the opposite effect. The penalty upon retaining earnings in the business will doubtless lead many corporations to rely in greater measure upon bank loans.

A significant consequence of the decline of commercial loans is the accompanying contraction of loans eligible for rediscount at the Reserve banks. On June 30, 1920, the amount of eligible loans of national banks was \$4,320,000,000, or 32 per cent of total loans. By 1929, the amount had shrunk to \$2,974,000,000, or 20 per cent of total loans; and at midyear, 1936, the figure was \$1,450,000,000, or 19 per cent.¹ From the viewpoint of member bank borrowing power at the Reserve banks, however, this is not alarming for two reasons. The banks may borrow on the basis of their huge holdings of United States securities. And furthermore, the Banking Act of 1935 permits the Reserve banks to lend upon the basis of any acceptable assets, though at a slightly higher rate.

¹ *Annual Reports of the Comptroller of the Currency.*

g. Regulation of Commercial Loans

Various regulations upon the lending operations of banks are imposed by Federal and state laws. In general, a national bank is not permitted to loan more than 10 per cent of its capital and surplus to a single interest (individual, partnership, or corporation). This also applies to loans to a bank affiliate with the added restriction that total loans to affiliates may not exceed 20 per cent of the bank's capital and surplus. The 10 per cent rule is designed, of course, to force a reasonable degree of loan diversification. There are, however, a number of exceptions, the broadest of which is that no limit shall apply to "bills of exchange drawn in good faith against actually existing values."¹ Since the great body of unsecured customer loans is subject to the limitation, large corporations are often forced to borrow at several banks or to raise funds on the open market.

Another provision of the National Bank Act² limits the interest that may be charged by a national bank upon loans to the rate set by state law, or to 1 per cent above the ninety-day rediscount rate in effect at its Reserve bank, whichever is the higher. In the absence of an applicable state law the alternative upper limit is fixed at 7 per cent.

4. INVESTMENT AND SPECULATIVE LOANS

While dividing lines between commercial, investment, and speculative loans are quite arbitrary, we shall use the official figures on "security" and "real-estate" loans to represent the two latter classes combined (see Chart 11). It should not be forgotten, however, that the security loan category includes some commercial loans and that the latter division harbors certain amounts of the investment and speculative types. Owing to the compensating nature of the error, the reported figures may be used with somewhat greater assurance.

a. Security Loans

Security loans are those protected not only by the general credit of the borrower as evidenced by his promissory note, but

¹ See official form of the Comptroller of the Currency 1416-B for a complete summary of these exceptions.

² Section 5197

also by a pledge of stocks or bonds. In making such loans a bank is usually more concerned with the nature, marketability, and value of the collateral than with the borrower's earnings or his financial position. This is especially true of noncustomer loans made in the open market since loss may be prevented at any time by sale of the securities. It is less true with respect to secured customer loans because of the natural disinclination to sell out a client. Both cases, however, afford a marked contrast to line-of-credit commercial loans where primary emphasis is placed upon credit analysis.

Demand for Security Loans. The demand for security loans arises in connection with the carrying or trading of investment securities. Three divisions of this demand may be distinguished. First, individuals may borrow part of the purchase price of securities, usually with the intention of subsequently taking up the loan out of income. For the most part, these are regular customer loans. They ordinarily represent from two-thirds to three-fourths of total security loans. Second, individuals may buy securities on margin through their brokers, who in turn use the securities as collateral for "brokers' loans" at the banks. In this case, the individual pays interest to the broker upon the amount of his debit balance at approximately the prevailing call-loan rate. This division represents principally speculative security trading. Last, investment bankers may borrow to carry newly underwritten issues during the period of distribution to investors. They may also borrow at times to trade in securities on their own account. Taken together, the last two divisions account for the total brokers' loans of member banks. On June 30, 1936, these amounted to \$1,345,000,000 as compared with other security loans of \$2,863,000,000.¹

Supply of Brokers' Loans. Loans to brokers in New York City are supplied by New York City banks either directly or as agents for out-of-town banks. For the service of placing such outside funds New York banks charge a fee of 0.5 per cent per annum. Before 1933 the New York banks also acted as agents in making brokers' loans for business firms, individuals, investment trusts, and foreign banks. In fact, at the peak of the stock boom of 1929, this category constituted about 60 per cent of brokers' loans, whereas the banks themselves supplied only

¹ *Federal Reserve Bulletin*, November, 1936, p. 894.

40 per cent. But the Banking Act of 1933 prohibited member banks from acting as the agents for nonbanking interests in the placement of such loans. This restriction, combined with the fact that brokers are permitted to borrow only from member banks or from those nonmember banks that observe the regulations applying to members,¹ effectively suppresses loans to brokers from nonbanking sources, and, therefore, brings them more completely within the control of the Reserve authorities.

Terms of Brokers' Loans. Brokers' loans are made either on a call or a time basis. A call loan is one which the borrower or lender may terminate at any time. It is an unwritten law, however, that call loans shall not be demanded after 12.15 P.M. This practice has developed to prevent a large wave of selling from taking place with consequent demoralization of security prices on the Stock Exchange, and to enable the broker to make arrangements to secure call loans from another lender. If a loan is not called before 12:15 P.M., the broker knows it will not be called during the remainder of the day; if, however, it is called before 12:15 P.M., the broker must pay it during the day. As a matter of fact, it is not unusual for banks to call \$50,000,000 in a single morning. The borrower likewise has the privilege of paying his loan at any time.

Time loans are also secured by collateral but are made for a definite period such as 60 and 90 days, four to six months, and even longer. Both borrower and lender know exactly when such loans mature. Call loans are made either at the money desk of the New York Stock Exchange or outside, while time loans are never made at the money desk.

The proportion of time loans to call loans depends upon various conditions in the money market. In general, brokers prefer to have about one-third of their borrowings in time loans, free from the possible embarrassment of heavy calls by the banks. The proportion usually falls well below this level, however, in active and rising markets, such as 1928 and 1929, when the ratio declined to as low as 6 per cent. One of the principal reasons for this drop was the New York State usury law which limits the rate on time loans to 6 per cent but fixes no limit on call-loan rates. As a consequence, few time loans are made when the market rate rises above the legal maximum. Another reason

¹ Security Exchange Act of 1934, Section 8.

was the fact that at such times both brokers and lenders prefer to have their funds under day-to-day control. A still further reason was the great rise of brokers' loans for the account of nonbanking lenders who preferred the call basis. This factor is, of course, no longer operative.¹

Regulation of Security Loans. Recent banking legislation has given the Board of Governors wide powers over security loans. It may limit the security loans of member banks by districts to a given percentage of capital and surplus; and it may direct any member to refrain from further increase of security loans on penalty of suspension of rediscount privileges.² In addition, the Securities Exchange Act of 1934 gave the Board control over the margin requirements for all security loans. On April 1, 1936, this power was exercised when the maximum loan value of a security was reduced from 55 per cent to 45 per cent of its current market value.

Movements of Security Loans. One of the striking banking developments of the 1920's was the great rise of security loans. Between 1922 and 1930 such loans of reporting member banks in leading cities more than doubled—rising from about \$3,800,000,000 to over \$8,000,000,000. During the same period the proportion of such loans to total loans rose from 34 to 46 per cent. The great depression, however, brought about a precipitous liquidation between 1930 and 1933, which more than canceled the preceding rise. On December 9, 1936, the amount stood at \$3,300,000,000, only a little above the extreme low point (see Chart 11).

b. Real-estate Loans

Real-estate loans represent funds advanced principally to finance the construction or purchase of houses and farms. The commitment, therefore, is necessarily in the nature of a long-term investment. Repayment is usually a slow process, being effected by savings out of income. Most of such loans are secured by

¹ See B. H. Beckhart, *The New York Money Market* (New York, Columbia University Press, 1932), Vol. III, pp. 87-96 for a detailed discussion of this point.

² Federal Reserve Act, Section 11m, as amended by the Banking Act of 1935.

a mortgage which enables the lender to take over the property in case the borrower fails to observe the terms of the loan agreement.

It is obvious that a long-term, unmarketable obligation of this kind is an unsuitable commitment for deposits subject to check. In fact, national banks were prohibited from making real-estate loans before 1914. This, however, placed them at a competitive disadvantage with state banks and trust companies, since most state laws permitted such loans. As a consequence, the Federal Reserve Act provided that national banks outside the central reserve cities might make farm mortgage loans for a period of five years and urban realty loans for one year.

This provision was closely related to the distinction made in the act between demand and time deposits. Whereas the legal reserve requirement was previously the same for both types of deposits, it was substantially lowered for the latter,¹ so that national banks might compete on more even terms for savings deposits. Moreover, since real-estate loans are a natural outlet for such deposits, it was logical at the same time to open the door to them within reasonable limits. The limit set upon the total of such loans by a national bank was one-fourth of capital and surplus or one-third of time deposits, whichever was the higher. This alternative upper limit was designed to restrict real-estate loans narrowly for those banks holding mainly demand deposits, but at the same time to open the field for those institutions with large time deposits. In addition, the amount of each real-estate loan was limited to one-half of the actual value of the property.

Further liberalization of the restrictions upon real-estate loans by national banks has been made from time to time, but notably by the McFadden Act of 1927,² and the Banking Act of 1935. Under the latter, the alternative limit upon the aggregate of such loans is fixed at the amount of capital and surplus, or 60 per cent of time deposits, whichever is the higher. Real-estate loans may

¹ At first to 5 per cent, and in 1917 to 3 per cent.

² This act raised the upper limit on total real-estate loans to one-half of *savings* deposits, a larger amount than one-third of time deposits. It also raised the limit further by excluding real-estate bonds from the real-estate loan category, in which they were previously included. In addition, it permitted urban realty loans with a maturity not to exceed five years, and it removed the previous discrimination against central reserve city banks.

also be made up to 60 per cent of the appraised value of the property and, for a period of ten years, provided the contract calls for the amortization of at least 40 per cent of the loan within the ten-year period. Without such an amortization arrangement, however, the maturity may not exceed five years, and the amount may not exceed 50 per cent of the appraised value.¹

A considerable impetus was given to real-estate loans by the McFadden Act of 1927. At midyear 1926, such loans of national banks stood at \$461,000,000, or 3.4 per cent of total loans. By 1930, the amount had increased to \$1,473,000,000, or 10 per cent of total loans. Most of these, however, were extended by the country banks and the smaller city banks where the proportion was about 13 per cent. In the central reserve cities only 0.5 per cent of loans was in this form.

But during the depression, the real-estate loans of member banks declined more than 30 per cent (see Chart 11). This was not a result of repayments by borrowers but of foreclosures, bank failures, and the taking over of such loans by the Government through the Home Owners Loan Corporation and the Federal Farm Mortgage Corporation. Only a slight recovery from the low point had occurred by early 1937.

c. Consumption Loans

Made by Banks. Consumption loans are loans to consumers for the purpose of enabling them to enjoy some article or service before their income would otherwise permit. Such loans may thus be made to purchase as wide a variety of things as may conceivably enter into the consumer's expense budget—ranging from perishable services to durable goods such as houses and automobiles. These loans may be contrasted with business loans in that the latter belong to the producer's economy rather than that of the final consumer. The producer borrows with the aim of enlarging business profits while the consumer borrows in order to consume *now* rather than later.

It is impossible to find out the amount of consumption loans from reported bank statistics, but the volume is unquestionably large. The portion of real-estate loans made to home owners falls in this division as well as a small fraction of security loans,

¹ The foregoing restrictions do not apply to real-estate loans that are insured under Title II of the National Housing Act

and a larger proportion of so-called commercial loans. In addition to direct consumer loans, the commercial banks indirectly support this field insofar as they lend to retail stores for the purpose of financing accounts and notes receivable, and also insofar as they lend to, or buy open-market securities of, finance companies that deal in instalment credit and accounts receivable.

The small personal loan field is one that has been badly neglected in the United States. Before about 1910 wage earners generally were at the mercy of pawnbrokers and loan sharks whenever they were plagued by financial troubles. Interest charges as high as 100 to 400 per cent per annum were not uncommon. Although considerable progress has been made in stamping out such practices, much remains to be done. Under the impetus of studies conducted by the Russell Sage Foundation, the Uniform Small Loan Law has been adopted in 26 states. This law requires licensing of small lenders, and protects the borrower by limiting interest to $3\frac{1}{2}$ per cent per month and by regulating other terms of the loan contract.

A more important factor in protecting the small borrower, however, has been the development of additional loan facilities. These have taken the form of industrial banks of which there were about 250 at the beginning of 1936, building and loan associations, credit unions, labor banks, and philanthropic loan societies.¹

In addition, many banks have established personal loan departments since 1924 that operate along the same lines as industrial banks. By 1931 there were 277 such departments in existence. A number were closed during the depression, but the difficulty of finding profitable employment for funds has led more banks to enter the field since 1935. The usual practice is to require the signatures of two comakers on the borrower's promissory note in lieu of collateral. The note is then discounted, and repayment is made by weekly or monthly instalments over a period of six to twelve months. Although the net cost to the borrower ranges from 9 to 24 per cent per annum, this type of business is sometimes unprofitable. A technique entirely different from that of making business loans is required. Without a carefully administered system of credit investigation and collection, direct losses are bound to be heavy. Moreover, if such

¹See W. H. Steiner, *Money and Banking* (New York, Henry Holt & Company, 1933), Ch. XXII, for a good description of these agencies.

losses are held to a minimum, the expenses involved are necessarily very high.

Made by Finance Companies. Instalment paper represents loans made to specialized finance companies or to other clients engaged in a business which sells commodities on the instalment plan. It has its origin in instalment selling whereby the purchaser of the commodity pays part of the purchase price at the time of the sale and agrees to pay part of the balance at stated intervals until the total purchase price is paid. The time elapsing between the initial and final payment varies with a multitude of considerations; in some cases it may be two years or even more. Such a selling method is used in connection with the sale of automobiles and trucks, radios, washing machines, oil furnaces, vacuum cleaners, phonographs, pianos, and a number of other commodities. The particular sales contract varies with the type of goods sold.

These instalment sales are financed in the first instance by specialized finance companies or general finance companies or by the seller. A specialized finance company is one which handles but one type of paper such as automobile paper. Such companies are frequently formed as a subsidiary to the company that manufactures and sells the product. An excellent example of this is The General Motors Acceptance Corporation, formed in 1919 and controlled by The General Motors Corporation. The business of this corporation is to finance the sale of automobiles or trucks sold by the parent company through its dealers or agents. The Acceptance Corporation takes over from the dealers the notes signed by the purchasers of the automobiles and certain other legal documents, deposits these as collateral, and then issues its securities against the collateral. The notes and debentures are sold in the market and many of them are bought by commercial banks.

A general finance company is not limited to financing the sale of one special product and is not as a rule formed as a subsidiary of another corporation. Frequently, these general finance companies purchase accounts receivable from various businesses and issue short-time notes against this collateral.

The growth of these specialized finance companies both in numbers and resources has been very great. The first specialized finance company was started in Chicago in 1905 and little

progress was made until 1915. By 1927 there were about 1,000 such companies doing business in various parts of the United States. A survey made by the National Credit Office based upon 573 specialized finance companies shows that they handled \$3,300,000,000 of paper in 1926; and of this amount \$2,700,000,000 represented automobile paper.¹ Unfortunately banking statistics do not reveal how much of this instalment paper is held by banks.

II. BANK INVESTMENTS

1. INCREASED IMPORTANCE

A striking change in the make-up of bank assets has taken place during the great depression (see Chart 11, page 314). At midyear 1930 investments of member banks constituted 29 per cent of their total loans and investments. By 1936 investments represented 61 per cent, and loans only 39 per cent. This shift is a consequence of drastic liquidation of loans, on the one hand, and absorption by the banks of large Federal deficits, on the other. It is in large part a depression phenomenon which should be greatly modified with the return of more normal conditions. But it also reflects a long-term movement that has been under way during the present century. For example, if we go back as far as 1915, investments were 23 per cent and loans were 77 per cent of the earning assets of member banks.

This means that in a comparatively short period the leading problem of bank management has shifted from that of making loans to that of buying open-market investment securities. Too many banks, unfortunately, have failed to meet this great change with corresponding adjustments within their organizations. The management of a bond portfolio is a most difficult and technical task which should be administered only by men of broad experience, mature judgment, and adequate training. Moreover, every facility to aid analytical work and to provide complete information should be available. Investment errors

¹ Professor Seligman's estimate of the total volume of instalment paper outstanding in 1925 was a little over \$2,000,000,000. This figure, however, applied to consumption goods in the sale of which the system of instalment sales applies in a large measure. E. R. A. Seligman, *The Economics of Installment Selling* (New York, Harper & Brothers, 1927), Vol. 1, p. 118.

are so costly that both depositors and stockholders have a right to expect the utmost care from their bank.

The growing importance of bank investments also raises a problem with respect to the adequacy of bank capital. In contrast with short-term obligations, long-term bonds fluctuate widely in value in response both to the level of interest rates and corporate earnings. For example, between March, 1928, and June, 1932, the average price of high-grade bonds dropped 36.5 per cent, and by December, 1936, they had risen over 66 per cent from the 1932 low point.¹ In the absence of generous capital funds, such wide swings of bond values represent a definite threat to bank solvency. To be more concrete, the capital, surplus, and undivided profits of all insured commercial banks represented 27 per cent of their security portfolio at midyear 1936. This means, of course, that should the value of bonds held by the banks fall by this percentage, their entire capital account would be just sufficient to absorb the loss.

As a matter of principle an increase in the ratio of capital funds should be provided as the proportion of long-term bonds rises. Otherwise, the solvency of the banks becomes seriously endangered. But the actual trend has been in the opposite direction. In 1900, the ratio of the capital funds of all commercial banks in the country to their combined deposits and circulation was 26 per cent; by 1910, it was 23 per cent; and at midyear 1936 the same ratio for all insured banks was 12.6 per cent.² This development has taken place despite asset changes that call for more, rather than less, conservatism. Sound banking requires that, either by management policy or by law, the stockholders' equity be enlarged.

2. THE SECURITY PORTFOLIO

Although the reported information concerning bank security portfolios is fragmentary, some idea of their composition may be gained from Table 21 which shows the holdings of all national banks in 1928 as compared with 1936. The dominant change between the two dates was the tremendous increase of United

¹ As measured by Standard Statistics Company index of 45 high-grade bonds.

² Calculations based upon reports of the Comptroller of the Currency and the Federal Deposit Insurance Corporation.

States Government securities, arising principally from Federal budgetary deficits. Holdings of such securities trebled in volume, and rose from 40 to 68 per cent of the entire portfolio. Other notable changes include the large decline in holdings of foreign securities and the substantial increase of state and municipal bonds.

3. GOVERNMENT REGULATION

Until recently there has been only one important regulation of the investments of commercial banks in the United States. The National Bank Act and the banking laws of most of the states

TABLE 21.—INVESTMENT HOLDINGS OF NATIONAL BANKS AT MIDYEAR 1928 AND 1936

(In millions of dollars)

Type of security	June 30, 1928	June 30, 1936
U. S. Government securities:		
Direct	2,891	7,073
Fully guaranteed		1,374
Total	2,891	8,447
State, county, and municipal bonds	840	1,539
Railroad bonds	681	665
Public-utility bonds	743	654
Foreign government bonds	296	90
Other foreign bonds	253	83
All other bonds	1,028	756
Stocks	196	248
Corporation notes and claims	218	
Total securities other than U. S.	4,256	4,038
Total securities	7,147	12,485

SOURCE *Annual Reports of the Comptroller of the Currency*

prohibited the purchase of corporate stocks unless specifically authorized by statute. Such securities as a class, owing to their speculative character, were not regarded as appropriate for bank portfolios. Beyond this restriction, however, banks were free with minor exception to exercise their own judgment in the purchase of investment securities.

But the disastrous depreciation of the bond accounts of most banks during the depression, leading in many cases to failure, evoked additional regulation of bank investment policy in the Banking Acts of 1933 and 1935. These provisions may be summarized as follows:

1. Member banks were required to sever all connections with their security affiliates. Furthermore, no director, officer, or employee of a member bank was permitted at the same time to be connected with any organization underwriting or dealing in investment securities, except under permit from the Board of Governors.

2. Members were prohibited from underwriting new issues of securities. They were also prohibited from dealing in securities with the exception of purchases for their own account under the Comptroller's regulations. An exception was made, however, for obligations of the United States and political subdivisions thereof, and for certain Government corporations.

3. In order to assure some degree of diversification, a member bank was prohibited from investing more than 10 per cent of its capital and surplus in the securities of one obligor.

4. A member was not to invest more than 15 per cent of capital and surplus in the stock of a corporation organized to carry on a safe-deposit business.

5. Except under special permit a member was not allowed to invest, directly or indirectly, more than the amount of its capital stock in bank premises.

6. The aggregate of loans to, and investments in the securities of, a bank's affiliates was limited to 20 per cent of its capital and surplus.

The foregoing restrictions were imposed by the Banking Act of 1933 with the exception of (3), which was added by the act of 1935.

A vigorous forward step was taken by the Comptroller with respect to the control of member bank investments in his recent regulations¹ issued under the new laws. In the first place, he re-defined the term "marketable security" so as to make the least shiftable issues ineligible for purchase. In order to meet the requirement an issue must: (1) be of sufficiently large total to make marketability possible; (2) be publicly distributed in a

¹ Issued February 15, 1936.

manner to insure marketability; (3) be registered with the Securities and Exchange Commission; and (4) provide for a bank trustee independent of the obligor, when the security is issued under a trust agreement.

In the second place, the Comptroller issued seven additional rules to govern bank investments, of which the most important was the prohibition of the purchase of "distinctly or predominately speculative" securities. In case of doubt concerning the eligibility of a security, confirmation must be found in at least two recognized security rating services.¹ Such confirmation, however, is not a rigid necessity. The Comptroller recognizes that certain unrated issues and certain securities with a low rating may in fact be eligible. But in such cases the bank must assume the burden of satisfying the examiners regarding the nonspeculative character of the issue.

The rules also included specified prohibition of the purchase of bonds in default, bonds convertible into stock, and securities carrying stock purchase rights.² While considerable experience is necessary before qualitative regulation can be enforced without undue arbitrariness, there is no question but that the Comptroller's efforts along this line should materially raise the caliber of the average bank's portfolio.

4. CYCLICAL MOVEMENTS

In view of the residual nature of bank investments their amount varies widely during the course of the business cycle. Banks ordinarily take care of customer loan requirements first, and then commit any remaining surplus reserves to open-market securities. From this it follows that investments usually move inversely to loans both during the late stage of a business boom and during a depression, except for the panic phase. Customer demands for commercial and speculative loans expand during a boom until they can be met only by the sale of investments or by borrowing at the Reserve banks. Most banks follow the first method in part, at least, since there is a general reluctance

¹ In practice this means Standard Statistics Company, Moody's Investors Service, Poor's Publishing Company, and the Fitch Service.

² See *Federal Reserve Bulletin*, March, 1936, p. 194; June, 1936, p. 421, for the text of the Comptroller's regulations and interpretations.

to incur indebtedness. In addition, rates on security loans frequently become more attractive in such periods than yields on bonds. The inverse movement of investments and loans during 1928 and 1929 furnishes a good illustration of the tendency (see Chart 11, page 314).

When a depression develops, the demand for customer loans declines with the result that surplus reserves accumulate. Unless the risk is too great, these nonearning reserves are converted into securities which yield a return. Moreover, if the depression is prolonged and severe, the banks are most likely to be called upon to finance a large deficit in the Government budget. Taken together, these influences lead to a substantial increase of investments while loan liquidation is still in progress. If a panic phase develops, however, the banks may be forced to sell bonds in order to meet currency hoarding demands. The period, 1930-1935, affords an excellent example of the operation of all these influences.

During the recovery stage of the business cycle, however, both investments and loans ordinarily expand until the slack in bank reserves is taken up. Usually this point is not reached until prosperity has reached a boom stage, so that the period of concomitant expansion persists for several years. As an illustration, the period 1922-1928 may be cited.

As a general rule, the banks have done a poor job of gauging the cycles of bond prices. They have tended to buy whenever surplus reserves accumulate. This is ordinarily a period, such as 1935-1936, marked by low interest rates and high bond prices. They have tended to sell in the boom phase of the cycle in order to take care of mounting customer loan demands, and to take advantage of attractive rates on such loans, or on call loans to brokers. This is usually a period of high interest rates and relatively low high-grade bond prices. Thus, bonds have quite generally been bought at high prices and sold a few years later at lower prices. The danger of repeating this costly error is great as the banks enter 1937. Excess reserves are large and bond prices are at the highest level ever recorded. Moreover, the situation is the more hazardous because the vast increase in bond holdings has not been safeguarded by an adequate amount of capital funds.

5. SECONDARY RESERVES

The most liquid or shiftable portion of bank loans and investments is commonly designated "secondary reserves." In general, the term refers to those assets that could be converted into primary reserves on short notice without appreciable loss, if for any reason a serious drain of reserves should occur. The assets which qualify include United States securities, bankers' acceptances, commercial paper eligible for rediscount at the Reserve banks, call loans, and readily marketable municipal, state, or corporate obligations of relatively short maturity. At best any such classification is bound to be unduly arbitrary. This is particularly true since the Banking Act of 1935 which enables the Reserve banks to lend upon any acceptable assets of member banks. Conceivably, this might in practice turn all sound loans and investments of members into secondary reserves. In any event the administration of this provision is very likely to impart the feature of shiftable to a much larger share of bank assets.

III. MULTIPLE EXPANSION AND CONTRACTION OF BANK CREDIT

A knowledge of the principles governing bank credit expansion and contraction is of great practical significance. This is particularly true with respect to the policies and measures of credit control of the Reserve authorities, but it is also true in connection with bank management and many problems of economic policy.

1. ASSUME ONE GREAT BANK

The analysis may be clarified if we start with the assumption that only one great commercial bank with thousands of branches throughout the country is in existence. Let us also assume that this bank is required by law to keep 10 per cent of its deposits in the form of a balance at the Reserve bank and that at the moment the bank's reserve is just sufficient to meet legal requirements. Under these circumstances, how great an expansion of loans, investments, and deposits may be made on the basis of an additional \$100 deposit of gold certificates?

The answer is quite obvious. Loans and investments may be increased by \$900 and derivative deposits by the same amount

before the new reserve is entirely put to work. Further expansion would drive the reserve ratio below the 10 per cent minimum. All of this assumes, of course, that reasonably attractive loans and investments are to be had, that no change in hand-to-hand currency demand occurs, and that there is no occasion to change the amount of vault cash. Thus, given investment opportunities, the expansion limit is set by the necessity from law or experience of maintaining a safe amount of reserve.

2. ONE COMMERCIAL BANK OF THE SYSTEM

The position of one commercial bank as a member of a system of some 15,000 banks is, however, quite different from that of our one great bank. Again assuming a 10 per cent reserve, it would seldom be safe to expand its loans and investments beyond the amount of its visible excess reserve. That is, on the basis of a deposit of \$100 in lawful money, it would be able to add only about \$90 to earning assets. The reason for this is the fact that its derivative deposits are largely or entirely checked away and deposited in other banks as borrowing customers pay debts which provided the need for loans in the first place. Thus, in a few days it must be prepared to meet an adverse balance of about \$90, unless there are offsetting factors, as the checks come back for collection. Settlements of these claims use up the surplus reserve. Obviously, an expansion of earning assets by more than \$90 under these circumstances would draw the bank's reserve below the legal minimum, and would occasion, therefore, either borrowing or the contraction of earning assets.

It is true that a few of the check payments may be made to other depositors of the bank. In this case settlement is made by a mere book transfer from one deposit account to another without the loss of reserve, so that the bank may still retain, say \$10, of surplus reserve. But few banks in this country can definitely count on such a result, even though it may occur from time to time. Oftentimes also, this is only an intermediate step in the loss of reserve. There is no assurance that the depositors to whom the bank shifted funds will leave their accounts undisturbed. Indeed it seems more likely that they will shortly use the money to pay previous debts of their own, or to buy securities and commodities. The common practice, therefore, of the

individual bank in this country is to lend and invest from day to day only its visible surplus reserve.

Another qualification to the foregoing analysis is often cited which is really no qualification at all if we adhere to the usual condition of *ceteris paribus*. It is said that if all banks are expanding at the same rate, the individual bank tends to gain as much reserve at the clearinghouse from the expansion of other banks as it tends to lose from its own addition to earning assets. Under these conditions, it is argued, a bank is safe in expanding earning assets several times its surplus reserve. But again the answer is that the bank cannot from day to day definitely count upon the expansion of other banks and that the safe policy is, therefore, to delay expansion until surplus reserve is in sight. Moreover, it becomes evident that this represents no real qualification to the previous analysis when we remember that the gain of reserves from expansion by other banks is a violation of the condition, *ceteris paribus*. The gain of reserve from this source would be the same irrespective of the bank's own lending operations which may on net balance either augment or detract from that gain.

3. THE SYSTEM OF COMMERCIAL BANKS

All the commercial banks as a group, in contrast to the individual bank, occupy the same position as our one great bank dealt with under the first assumption. That is, a multiple expansion may be builded upon a given increment of reserve; and given investment opportunities the necessity of maintaining a certain proportion of reserves sets the limit of expansion. But the question arises: If each individual bank can increase its earning assets only by about the amount of its surplus reserve, how can the whole group acting together produce an expansion several times the surplus reserve?

This seeming dilemma resolves itself when one reflects that the factor which checks individual bank expansion, the dollar-for-dollar loss of reserve, does not operate with respect to the whole group.¹ Other banks gain the reserve that is checked away from the individual bank, and they in turn may proceed to lend or invest whatever surplus accrues.

¹ Disregarding for the moment international banking relations.

To illustrate the process, let us assume that the \$100 deposit of lawful money is made in Bank A instead of in the one great bank. After setting aside a \$10 reserve, it lends and invests \$90 and shortly loses its surplus reserve. But the \$90 is deposited in several other banks which we may designate the B group. The B's are now in position to expand assets by \$81, which they do, and straightway lose their surplus reserve to the C group. The C's may now lend and invest \$72.90 with a corresponding loss of reserve to the D group. And so on, until the Bank A's original surplus reserve of \$90 supports \$900 of added earning assets and an identical amount of derivative deposits in the whole system. In the process, of course, the \$90 reserve becomes minutely subdivided and widely distributed over the country, so that an expansion that begins with a bank in Seattle may soon be transmitted to Miami and Boston.

The point should be emphasized that the degree of bank expansion, given investment opportunities, depends upon the reserve ratio which is made effective by law or by banking policy. In the foregoing illustration, the necessity of a 20 per cent reserve would hold the increase of loans and investments to \$400; of a 50 per cent reserve to \$100.

The multiple contraction process works in precisely the opposite manner. If under our previous assumptions customers of Bank A should withdraw \$100 to meet a net increase in hand-to-hand currency demand, earning assets of the banking system would have to be contracted by \$900 and deposits by the same amount in addition to the original \$100 withdrawal. In practice, the harshness of the contraction process is ordinarily cushioned by borrowing at the Reserve banks. For example, when hand-to-hand currency demands rise by some \$300,000,000 from September to the end of the year, a credit contraction is not enforced since Reserve bank credit offsets the currency drain, and the amount of member bank reserves remains about the same. This is not always the case, however, as is testified by the precipitous liquidation of bank assets and deposits during the last half of 1931. Reserve bank credit only replaced in part the heavy drain on bank reserves caused by unprecedented gold exports and currency hoarding. As a consequence, banks were forced to call loans at an unheard-of rate and to sacrifice bonds in a declining market.

4. THE FEDERAL RESERVE BANKS

Up to this point we have excluded the Reserve banks from our consideration of the credit expansion and contraction problem. But as a matter of fact the Federal Reserve System very greatly increased the potential expansion of credit in two ways. First, member bank reserve requirements were substantially lowered; and second, ultimate reserves were pooled by the Reserve bank, and the legal reserve of member banks then took the form of deposit liabilities of the Reserve banks.

For this reason, let us examine the limits of potential credit expansion under the Reserve System as set by basic legal reserves. This can be done most simply by calculating the number of member bank deposit-dollars that may be supported by \$1 of lawful reserve money held by the Reserve banks. Since the latter must keep a reserve of 35 per cent back of their deposits, the dollar would support ($100\frac{1}{35} \times \$1$), or \$2.86 of member bank legal reserves. Then assuming a 10 per cent member bank reserve, the expansion of demand deposits may amount to \$28.60. This may be compared with an expansion limit of six- or seven-fold by reserve city banks under the old national banking system.

Under the 15 per cent reserve requirement in effect after August, 1936, in reserve cities, the deposit expansion limit was reduced to about \$19, and under the 20 per cent figure effective after May 1, 1937, the limit becomes \$14.30.

An entirely different result is realized if the expansion occurs in Federal Reserve notes instead of deposits. A gold certificate reserve of 40 per cent must be held against notes, so that only \$2.50 of notes may be supported by a one-dollar gold certificate lodged with the Reserve banks. And this is the end of the matter for two reasons. First, the notes do not qualify as legal reserve for the member banks; and second, even if they did so qualify, it is very unlikely that the members would greatly enlarge their proportion of vault cash. Federal Reserve notes are usually withdrawn by members only in response to an enlarged public demand for hand-to-hand currency. The notes merely pass through the members' hands into those of the public.

Thus, in any practical analysis of potential expansion at a given time the first step is to determine whether the expansion

is most likely to occur in the form of notes or deposits; or, if in both forms, what is the probable proportion between them. On the average, approximately \$1 of additional hand-to-hand currency is needed when circulating deposits increase by \$5. If the combined expansion should occur in this ratio, our gold certificate in the Reserve banks would support about \$10.50 of deposits and notes,¹ if we assume a 10 per cent reserve against member bank deposits. Under the 20 per cent reserve that became effective May 1, 1937, the expansion would be reduced to \$8. But this average ratio has significance only for long periods. For shorter periods it is little more than a mathematical abstraction. For example, between 1924 and 1929 circulating deposits in the United States rose about 30 per cent while hand-to-hand currency declined 2 per cent.² Again, from the beginning of 1931 to February, 1933, circulating deposits declined about 28 per cent while currency outside the banks, owing to hoarding, rose 56 per cent.³ Thus, although there is a long-run tendency for deposits and hand-to-hand currency to expand together, their shorter fluctuations are in large measure independent. If one desires, therefore, to estimate the potential amount of credit expansion, it is necessary to analyze each situation by itself, rather than to depend upon an average currency-deposit ratio.

The mistake is often made of treating some figure of potential credit expansion as if it were in fact bound to be realized in the not distant future, with a consequent violent rise of prices. One should not, however, jump to such a conclusion without first weighing the force of at least three possible checks to expansion and inflation. In the first place, there must be available to the banks opportunities to lend and invest their reserves. We have learned during the depression that the member banks may hold large excess reserves for many years. It is true, however, that the quest for profits provides a strong incentive to

¹ Calculating on the basis of the 5:1 ratio itself, the \$5 deposit would require a gold certificate reserve of 17.5 cents and the \$1 Federal Reserve note would require 40 cents reserve. Thus, 57.5 cents in reserve supports a combined expansion of \$6. A reserve of \$1 would, therefore, support such expansion in the amount of \$10.43

² Based upon the estimates of J. W. Angell, *The Behavior of Money* (New York, McGraw-Hill Book Company, Inc., 1936), p. 175.

³ *Ibid.*, p. 179.

convert surplus reserve into earning assets. Past experience does indicate that in normal times the commercial banks keep their reserves close to the legal minimum.

In the second place, bank expansion is subject to the wide powers of the Board of Governors to control the volume and character of credit. The powers to control over-expansion are sufficient; it is mainly a question of the Board's policy and courage. With this end in view, it may direct the Reserve banks to sell securities and to raise rediscount rates; or it may increase the legal reserves of member banks, raise margin requirements for security loans, and directly limit a further extension of speculative loans. Apart from political pressure, there is no real reason why the Board may not maintain the Reserve bank ratio in the vicinity of, or even above, the present level of 80 per cent and, in addition, take steps to absorb the existing excess reserves of the member banks. It is purely a question of policy.

Lastly, even if a large expansion of bank credit should occur, a steep rise in prices is most unlikely while productive capacity stands unutilized. Sharp price increases reflect shortages of goods which become general only under a condition of full utilization of productive facilities. It is possible also that prices may not rise owing to an enlarged demand for money itself. Stated differently, the velocity of circulation may decline sufficiently to offset the enlargement of money supply.

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CHAPTER XX

THE VALUE OF MONEY: DETERMINATION¹

The logical culmination of a treatise on the monetary system is a consideration of the principles governing the determination of the value of money. Indeed almost all other matters pertaining to money are important only insofar as they bear upon this one final problem. This is true of the selection of a monetary standard, of matters relating to the circulation of money, of questions concerning the private or public issue of money, and largely also of the problem of credit regulation.

Just as in the case of any economic good the value forces at work may conveniently be summarized under the headings, supply and demand. But, as we shall see, neither of these terms is used with the same meaning in this special case of value determination as in other connections.

I. THE SUPPLY OF MONEY

1. GROSS SUPPLY

The gross stock of money is made up of two main divisions: (1) reserve money, and (2) circulating money. The stock of reserve money is held by the central bank or treasury and the commercial banks. In the United States the ultimate metallic reserve is held by the Treasury Department. One step removed stands the reserves of *lawful* money of the Federal Reserve banks, consisting principally of gold certificates. And still further removed are the legal reserve deposits of the commercial banks with the Reserve banks and the commercial banks' vault cash which is mainly composed of Federal Reserve notes and silver certificates.

At the end of 1936 the Treasury held \$11,258,000,000 of gold and \$1,323,000,000 of silver; the reserves of the Federal Reserve banks amounted to \$9,112,000,000; the legal reserves of member

¹ It is suggested that the reader again refer to Chapters II and III as a preliminary to consideration of this chapter.

banks were \$6,572,000,000; and the vault cash of commercial banks was approximately \$1,000,000,000. Incidentally, the mistake of adding the above amounts to derive a grand total of reserve money should be avoided. Such procedure would, of course, represent erroneous duplication.

This reserve money stands idle in the sense that it is not offered for goods and services in the market. The main functions of such money are to assure the solvency of the banks and to serve as a medium for the settlement of interbank claims which fail to cancel out. It may be thought of as supporting the credit moneys that actually circulate. Thus, reserve money does not enter directly into the price-determining process and does not qualify, therefore, as a part of the *effective* money supply. Its effect is felt only indirectly insofar as it influences the amount of circulating money.

2. EFFECTIVE SUPPLY: CIRCULATING MONEY

There are two principal categories of circulating money: (1) hand-to-hand currency, and (2) demand deposits.

a. Hand-to-hand Currency

In the United States, as we have seen, hand-to-hand money is composed mainly of Federal Reserve notes, silver certificates, and small change. At the end of 1936, it amounted to approximately \$5,500,000,000.¹ It should be observed that there is a constant give and take between circulating currency and reserve money. Reserve money is paid out by the banks in response to increased hand-to-hand money requirements. It then flows back when the need for currency subsides.

b. Circulating Deposits

In the circulating-deposits division are included all checking accounts except those of commercial banks. These are made up chiefly of the deposits of business enterprises, individuals, and governmental units including United States Government deposits both at the commercial banks and the Reserve banks. Bankers' deposits are excluded because they represent interbank claims

¹ Allowing a little more than \$1,000,000,000 for cash held in the vaults of commercial banks. On the above date the Treasury reported money in circulation of \$6,543,000,000.

and are checked upon principally to make interbank settlements. It would be logical, however, to include the unknown fraction of such deposits that is necessary for nonbanking payments.

c. Time Deposits and Commercial Credit

Time and savings deposits are not classified as money because they do not constitute direct means of payment. Since such deposits cannot lawfully be transferred by check, it is necessary to convert them into circulating money before paying a debt. One would seem to be little more justified in classifying them as money than any other readily salable asset. It is better, therefore, to regard them as simply a form of investment. The same may be said of United States securities and other obligations that enjoy a broad market.

Neither is it justified to include commercial and installment credit in the money supply. The outstanding amounts of book credit and installment paper represent debts that must subsequently be *settled* by check or currency. They are thus not means of payment but rather means of *deferring* payment. It is sometimes insisted that such credit should be classed as money because prices may be bid higher by purchases on credit as well as by purchases for cash. This view, however, does not bear close scrutiny. When merchants sell a larger volume on credit, they usually finance their additional accounts receivable by borrowing from the commercial banks. The new bank loans give rise to demand deposits which are already included in money supply. Double counting would result if we should also include the merchants' accounts receivable.

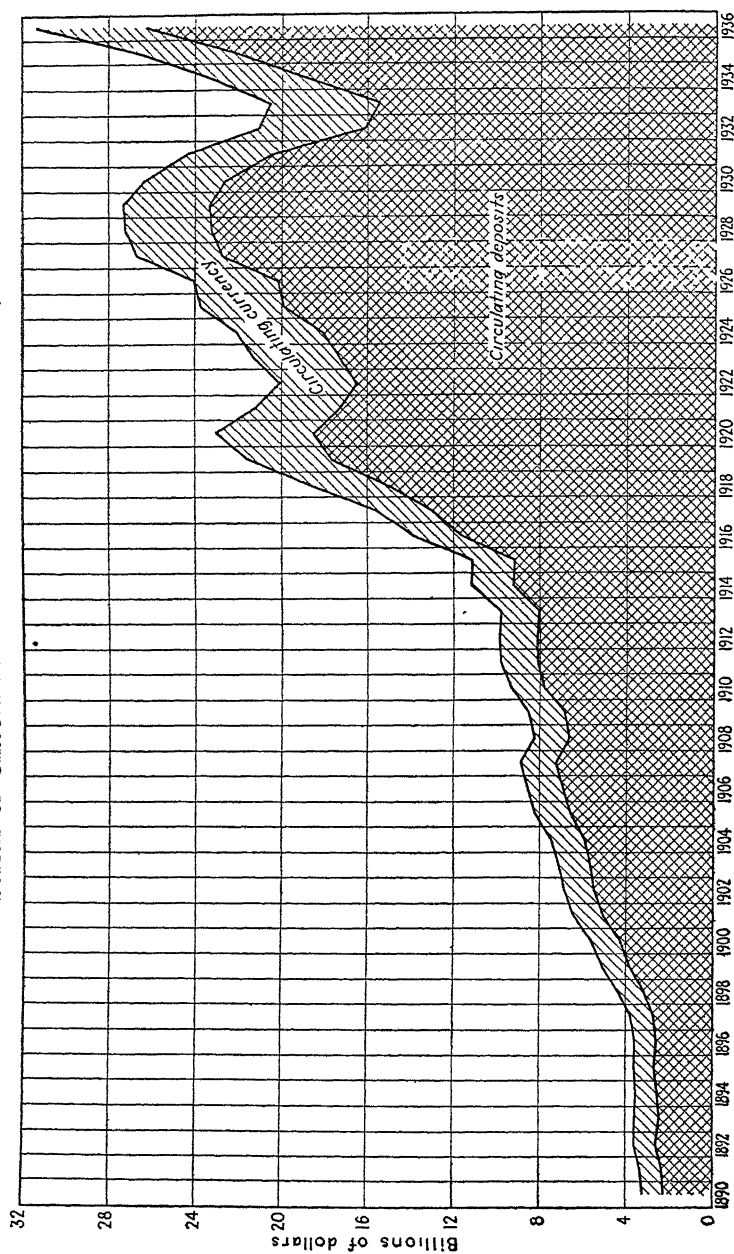
It may further be objected that the extension of book credit is sometimes financed out of the merchants' capital. But this is the exception not the rule since practically all merchants depend upon the banks to furnish a part of their working capital. Moreover, even in the exceptional case, it is by no means certain that the merchant would otherwise have let the funds, represented by additional accounts receivable, lie idle.

d. Statistical Measurement

Professor J. W. Angell has recently made available his annual estimates of money supply since 1890.¹ They have been pre-

¹ J. W. Angell, *The Behavior of Money* (New York, McGraw-Hill Book Company, Inc., 1936), p. 175.

CHART 12.—THE SUPPLY OF CIRCULATING MONEY IN THE UNITED STATES, 1890-1936

(Based on data from J. W. Angell, *The Behavior of Money*, p. 175.)

pared with great care and may be considered accurate for most practical purposes. The series are shown in Chart 12.

The chart brings out the gradual growth of the use of checks at the expense of hand-to-hand money. Over the period circulating deposits have increased from about two and one-half to six times the amount of circulating currency. Another fact worthy of notice is the effect of the great depression upon both the amount and make-up of the money supply.

e. Peculiar Meaning of Supply of Money

The meaning of the term "supply" as applied to money differs from the usual meaning. By the supply of a commodity is meant a schedule of the amounts that would be offered by sellers within an array of possible prices. But the supply of money is not a function of prices or values at all. There is no supply *schedule*. The term thus means simply "stock" or "quantity."

II. THE QUANTITY THEORY

There are two formulations of the quantity theory of the value of money that deserve inclusion. One is the old classical statement which Professor Irving Fisher has elaborated and popularized in the United States. The other approach has been developed by the English neoclassicists, best represented by Alfred Marshall and A. C. Pigou. Both formulations have the same concept of the supply of money, but their definitions of the demand for money are quite different. Mr. J. M. Keynes has aptly labeled the first as the "cash-transactions" approach, and the second as the "cash-balances" approach.

1. THE CASH-TRANSACTIONS APPROACH

The forces at work in determining the value of money are summarized in the Fisher equation as follows:

$$(a) \quad MV = PT^* \quad \text{or} \quad (b) \quad P = \frac{MV}{T}$$

By M is meant the quantity of money, including both circulating currency and deposits. V represents the velocity of circulation,

* When it is desired to distinguish between currency and deposits, this formula is written: $MV + M'V' = PT$. V and V' refer to the respective velocities of M and M' .

i.e., the number of times the average unit of money is spent in a given time period. Velocity is determined by dividing the total amount of money payments during the period by the average quantity of circulating money. T refers to the physical volume of things bought with money during the period. It is thus an abstract total of the number of conventional units of all things purchased—tons of coal + bushels of wheat + shares of stock, etc. Finally, P represents the average price per conventional unit of all things purchased; in other words, the general price level.

The identity between the two members of equation (a) should be clear. PT , the total value of things bought with money, necessarily must equal the total money payments, MV .

In its alternative form, the equation perhaps brings out more plainly the interrelationships between prices and the other three factors. Other things being equal, the price level varies directly and proportionately with M and V and inversely with T . It should be noticed that the equation itself tells nothing about the direction of cause and effect. The factors are merely conveniently summarized for causation analysis.

The concept of demand for money employed in the cash-transactions approach is that of all valuable things actually sold for money during a given period. This is comparable to *realized* demand with reference to commodities. That is, the concept does not involve a schedule as does the usual meaning of demand for a commodity. In keeping with this definition, the *potential* demand for money would be limited only by the product of the physical amounts of all valuable things and their possible rates of turnover.

2. THE CASH-BALANCES APPROACH

a. The Equation

In the cash-balances approach the factors governing the value of money are summarized in the following equation:

$$P = \frac{M}{KT}$$

Here the symbols P , M , and T have the same meaning as in the previous equation, *i.e.*, P represents the general level of prices,

M the quantity of both circulating currency and deposits, and T the total real value of money transactions. The symbol K refers to the proportion of T that the community desires to hold in the form of money.

The demand for money KT is thus to be thought of as a fund of *real* value, rather than so many units of money. This aspect of the fund Mr. J. M. Keynes emphasizes by measuring it in terms of "consumption units." Such a unit is defined to include a proper fraction of all the products and services bought by the typical consumer. Again, the non-money nature of the fund may be stressed by thinking of it as a certain part of the real income or wealth of the community or as represented by so many bales of cotton, tons of coal, bushels of corn, etc.¹

The reason for guarding so strongly against stating the fund in terms of dollars is that in this event circular reasoning cannot be avoided. In other words, before the dollar value of the fund can be known, the price level must already be determined. But the price level is the very factor we are seeking to explain.

b. The Need for a Money Fund

People find need for a money fund in order to equalize their incomes and expenditures. Income is typically received in a lump sum at weekly or monthly intervals. Expenditures, on the other hand, occur from day to day throughout the income interval. A large portion of them may either be estimated with fair accuracy or is definitely known in advance. The money fund needed to settle these debts is thus fixed rather rigidly; it cannot easily be reduced by individual choice below its normal relation to such expenses.

¹ Ordinarily the factor T in the cash-balances equation is replaced by I or R , referring respectively to real income or resources. But it is believed that T is a definitely superior quantity to which to relate K . This follows from the fact that the need for a value fund of money is a function of the real value of transactions, rather than of income or of wealth. The use of T also makes the equation entirely reconcilable with the cash-transactions equation, whereas it is not when K is related to I or R .

The author is indebted for this refinement to Professor H. S. Ellis' penetrating study of German monetary theory. For a fuller discussion of the advantages of this innovation see his *German Monetary Theory*, 1905-1933 (Cambridge, Harvard University Press, 1934), pp. 190-192.

Another part of expenditures, however, is uncertain and irregular. Unexpected guests may arrive, or there may be a serious accident in the family. For such contingencies one also needs a money fund. Each person makes his own decision regarding its size. This will depend upon such varying factors as income, wealth, and sense of caution. In each individual case, however, the choice is between holding income in money form, on the one hand, and the competing opportunities on the other for consumption and investment. When investment opportunities are unusually attractive, the money fund is naturally pared down to a minimum. But when investment is less attractive, or not attractive at all, the size of the fund grows in proportion.

This concept of the demand for money has the merit of resting directly upon the subjective valuations of individuals. A general demand schedule for money emerges as the sum of all individual schedules.¹ This is in keeping with the usual meaning of demand for goods.

c. Interpretation of the Equation

From the foregoing discussion, interpretation of the equation should be fairly obvious. The demand for a value fund in money form KT interacts with the number of circulating money units M and transmits a definite purchasing power to each money unit. The reciprocal of this purchasing power is the general price level P . Thus, other factors remaining the same, prices rise proportionately in response to an increase of M , to a decrease of K , or to a decrease of T ; they fall proportionately to a decrease of M , to an increase of K , or to an increase of T . Stated in even more summary form: other factors remaining the same, the price level varies directly in proportion to changes in the quantity of money and inversely in proportion to changes in the demand for money.

¹ With income fixed, each individual demand schedule for money is represented by the diminishing fractional parts of the real value of transactions corresponding to an increase in the value of such transactions. For example, the need for a money fund may be represented by 10 consumption units when the value of exchanges is 200 consumption units, *i.e.*, one-twentieth part; by 16 such units when exchanges are 400 units, or one-twenty-fifth part; by 20 units when exchanges are 600 units, or one-thirtieth part; and so on.

d. Comparison with the Fisher Equation

While the cash-transactions and cash-balances equations differ materially, they are entirely reconcilable. Both reach a common destination but along separate paths. We have already distinguished between their differing concepts of the demand for money. Suffice it to say further that the Fisher approach is wholly of the objective, exchange-value variety. The cash-balances approach, on the other hand, digs down to ultimate value origins in the demand schedules of individuals.

Another distinction is that the Fisher equation applies to a period of time, say one year, while the cash-balances equation relates to a definite point in time. As a direct consequence, the velocity of circulation V is included in the former equation but does not appear in the latter. It becomes in the second case a mere incident to the demand for money. In other words, the community is constantly striving to keep the value of the money fund in proper relation to transactions and income. If the value of the fund becomes too large, increased spending steps up velocity until the fall in value of the money unit (*i.e.*, a rising price level) adjusts the total value of the fund. And conversely, if the value of the fund becomes too small, velocity is reduced by the disposition to hold income in money form rather than spend it. This brings about a proper adjustment of the fund by a rise in value of the money unit (*i.e.*, a declining price level). Thus, if M remains unchanged, V and P move inversely and proportionately to changes in the demand for money KT .¹

e. A Qualification of Both Equations

Both the cash-transactions and cash-balances equations, it should be observed, deal only with the portion of exchanges mediated by the particular money under consideration. Ordinarily this qualification is unimportant since the proportion of non-money exchanges is small and relatively steady. But in a period of violent inflation, such as plagued Germany and Austria after the World War, people lose confidence in the local currency.

¹ It should be mentioned that either equation may be applied as a conceptual device in explaining the various price levels. For example, one equation might be adapted to the consumers' economy, and others to different sections of the producers' economy.

As a consequence, a greater part of trade is done on a barter basis, and in addition foreign money may be largely utilized. In other words, the field in which the local money operates is materially narrowed. Thus, while the equations may still serve as a formal basis for explaining the rise of prices in terms of local currency, they are no longer representative of the country's volume of trade.

f. Statistical Verification of the Equations

Numerous attempts have been made to test the Fisher equation by substituting for each term a quantity derived by statistical methods. But such efforts are foredoomed to failure, at least until financial and trade statistics are collected in far more complete form than at present. We can now do no more than make an intelligent guess concerning the values of T and V ; and the measurements of M and P are only approximations. Statistical verification of the equation is thus entirely impossible until a basis exists for accurate estimate of each included factor.

But while we may sometime be able to test the Fisher equation statistically, the cash-balances equation is not by nature adapted to such treatment. There is no conceivable means of measuring the demand of the community for a money fund of value at a given point of time. This equation must remain, then, merely a useful conceptual device for apprehending the problem.

3. THE DIRECTION OF CAUSATION

We have already seen that the equations themselves tell us nothing about the direction of cause and effect among the included factors. That is, whether prices change as a result of alterations in the money and trade factors, or vice versa, remains for analysis.

The so-called quantity theory places emphasis upon the monetary factors as constituting the dominant forces determining the value of money. Two main forms of this theory should be distinguished: (a) the long-run statement, and (b) the short-term statement.

a. The Long-run Form

The long-run form of the theory conceives of the *trend* of prices as being governed chiefly by M . This, of course, is based upon

the assumption that the long-term relationships of T and V change so little that they may be largely disregarded. Such an assumption appears to be justified for purposes of emphasis and simplification; but it should be made only with discrimination. For example, the volume of production has grown for the past 75 years at the annual rate of about 3 per cent. This influence has worked in the direction of declining prices. But an era of magnified nationalism might turn the production trend downward for a protracted period. Also, statistical studies show that velocity of circulation has risen at about the same rate, so that V has in the long-run roughly offset T . But again, the future trend of V is not by any means certain. Such considerations as these call for caution in the use of the usual postulate of the long-run theory.

The long-run quantity theory has also been simplified even further by stating it in terms of reserve money instead of circulating money. As applied to a gold standard, it is held that the long-term movements of prices occur mainly in response to changes in the stock of monetary gold. While it is true that a rough direct relationship between gold production and prices appears to have existed from 1875 to 1914, this version of the theory represents an unjustifiable simplification. It assumes, in addition to the postulates of the previous statement, that the ratio between reserve money and circulating money (deposits and currency) remains the same over the years. This has not been true in the past, nor is it very likely to be true in the future.

b. The Short-term Form

Less simplification is attempted in the short-term statement of the quantity theory. The price level is believed to be a passive resultant of the interactions of the other factors of the equation, M , V , and T . Emphasis, however, is placed upon the monetary factors by stating the theory as follows: Other factors remaining the same, the price level changes directly in proportion to changes in the quantity of money. In this way of putting it, T , V , and the field in which M functions are all impounded in the phrase, other factors remaining the same. Such procedure, however, strays too far from realities since V is ordinarily the dominant monetary factor accounting for short-term price changes.

Indeed, if only one monetary factor were included it would be better to impound M and state the principle in terms of V .

A still better form of statement is that suggested by the eminent English economist, Mr. D. H. Robertson: Other things being equal, the price level changes directly in proportion to changes in the *effective* quantity of money. The term, "effective quantity," is defined to include both M and V .¹ This leaves only T and the monetary field imprisoned by our troublesome but necessary phrase, *ceteris paribus*.

c. Anti-quantity Doctrines

The group that opposes the quantity theory believes that the causes governing the value of money are so complex and intangible that it is impossible to summarize them quantitatively. Its members place emphasis upon the type and quality of bank assets as price-determining influences, rather than upon the quantity and velocity of money. Their approach is thus qualitative instead of quantitative. They also call attention to certain psychological influences that in their view lie outside the equations of exchange. Furthermore, most of them stress the trade factor strongly and believe that prices more frequently than not change first, with resultant changes in M and V .

This is not the place to enter into a detailed discussion of the heated controversy that has raged for a century and a half over the quantity theory. Suffice it to say that the greater part of the dispute has been imaginary because the opponents have failed to cross swords on the real issues. Yet there is no denying the genuine and basic nature of the disagreement.

In the author's view, the truth is not to be found in the extreme position taken by either school of thought, but rather in a proper blending of the two. M and V are at times causes and at other times effects. During periods of moderate inflation or deflation, M and V appear to be the main causal factors, but, during extreme inflation or deflation and the bottom area of a depression, P and T seem to become dominant influences. Frequently, also, the interactions among the included members of the equation are so oscillating and mutual that cause and effect become indis-

¹ This usage should not be confused with the occasional employment of the term, "effective money supply," to mean the quantity of circulating money as opposed to reserve money.

tinguishable. Despite all this, however, the case in which the monetary factors are of major importance is believed to represent the general rule.

III. INTERPRETATIONS OF PRICE-LEVEL CHANGES

1. WAR AND POSTWAR INFLATION IN THE UNITED STATES

From the outbreak of the World War to June, 1920, the general price level in the United States doubled.¹ How is this to be explained in terms of the foregoing equations? During this period the Government borrowed many billions of dollars to finance war and postwar expenditures. These funds were mainly advanced by the commercial banks which bought a large proportion of the Government securities outright, and in addition loaned freely to their customers so that they in turn might make patriotic purchases of Liberty bonds. This material expansion of bank assets led, as usual, to a roughly corresponding increase in the quantity of circulating deposits.

In terms of the cash-transactions equation, the rise of prices is explained by the fact that MV increased at a considerably more rapid rate than T . Emphasis is placed upon the deposits portion of M rather than upon hand-to-hand currency since the latter occupies a more or less passive position in a check-using country. The need for more currency, arising from increased pay rolls and retail trade, usually lags behind deposit expansion. Money velocity rose mainly because of the prospect of higher prices which led to a more rapid spending of money income. The increased volume of trade tended to check the rise of prices but its influence was far overbalanced by the monetary factors.

The rise of prices is explained in terms of the cash-balances equation by the increase of M and the decline of K . Prospective price increases led people to hold less of their wealth in money form. The decline of K was greater than the increase of T , so that the demand for money fell.

2. HYPERINFLATION IN GERMANY, 1921-1923

The postwar period of hyperinflation in Germany, 1921-1923, provides another interesting case for interpretation of price

¹ As measured by the Index of the General Price Level of the Federal Reserve Bank of New York, which rose from 100 to 199 (see Chart 1, p. 28).

changes. The price level advanced over fourteen-fold between 1913 and July, 1921. But the complete collapse came during the period July, 1921, to December, 1923, when the index of wholesale prices (1913 = 100) rose from 1,430 to 126,160,000,000,000. During the same period the notes of the Reichsbank increased from 43,595,000,000,000 marks to the astronomical figure of 496,507,424,772,000,000,000; and its demand deposits from 27,857,000,000,000 marks to 548,024,197,000,000,000.¹

The prime mover of this vast inflation was the unbalanced government budget. Over 70 per cent of the mounting expenditures after 1918 were met with borrowed money, and in the last quarter of 1923 the proportion exceeded 99 per cent. In the postwar years the government did most of its borrowing directly at the Reichsbank by discounting treasury bills. The proceeds were taken in Reichsbank notes and deposit credit (in greater part the former) and used to meet expenses. Thus the budgetary engine continuously pumped a larger stream of money into the channels of circulation.

In terms of the cash-transactions equation, the initiating factor seems to have been M . But once depreciation was underway, V supplied an added stimulus because people spent money income as fast as possible lest it shrink in their hands. The monetary factors, however, were not the only causal ones. Quoted prices were marked up in anticipation of further depreciation and M and V were subsequently increased in order to effect actual exchanges at the higher level. In those phases of business closely related to foreign trade, domestic prices were marked up in step with sterling and dollar exchange. During the last few months, also, T declined because of the shrinking sphere in which the money functioned. An increase of barter occurred, and foreign money and local money substitutes were quite generally employed.

The same phenomena may be indicated by the cash-balances equation. Prices rose at times because of the vast increase of M combined with a diminishing demand for money. K declined because people avoided loss from depreciation by holding as small a money fund as possible. T also declined in the later stages as the proportion of exchanges effected by the money declined.

¹ J. P. Young, *European Currency and Finance* (Washington, Government Printing Office, 1925), Vol. I, pp 528-530.

At other times the causation was reversed. Prices were marked up in anticipation of further depreciation, followed by a supporting increase of M , a decrease of K , and also, near the end, a decline of T .

3. DEFLATION IN THE UNITED STATES, 1930-1933

The best illustration of a sharp drop in prices is furnished by the early years of the recent depression. Between September, 1929, and March, 1933, the general price level declined 33 per cent, wholesale prices dropped 37 per cent, and farm prices fell 60 per cent.¹ How explain this with reference to the equations?

Employing first the Fisher formulation, the initial price decline occurred mainly as a result of a fall in V and an increase of T : the community became less disposed to spend money income, and securities and commodities underwent heavy selling. Subsequently a material drop in the circulating-deposits portion of M intensified the downward pressure of the monetary factors and more than offset a decline of T .

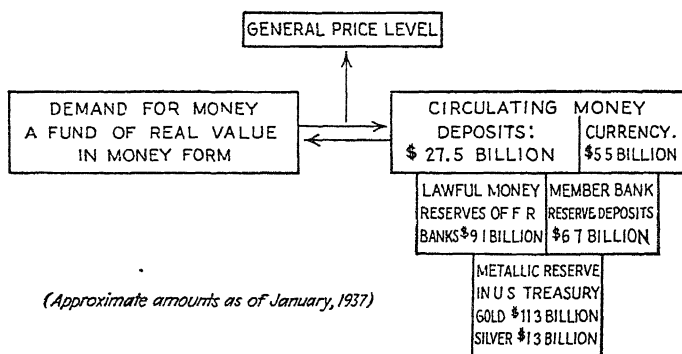
In the terminology of the cash-balances equation the first stage of the decline is explained by a rise in the demand for money as a consequence of increases in both K and T : fearing declining prices, people attempted to convert their income and wealth into money form, and T rose for a time during the liquidation process. Later on, the decline of M accentuated the movement and more than compensated for a decline of T .

IV. THE PRICE LEVEL AND THE VALUE OF GOLD

A common error in monetary theory is the misrepresentation of the relation between the price level and the value of the monetary standard. One of the functions of the standard is often stated to be the *determination* of the value of the circulating money units. This implies that the standard possesses a sort of absolute value that is transmitted to the circulating money stock. The notion is an outgrowth of the old metallist conception that money has value only because it is actually or prospectively redeemable in a valuable commodity. While few authorities expressly take this extreme position today, a good many of them leave the impression that the line of causation runs from the standard to money.

¹ See Charts 1 and 2, pp. 28 and 29.

The truth appears to be that the standard influences the price level only insofar as it affects the quantity of circulating money (both deposits and currency). But on the basis of a given gold reserve, the quantity of money may undergo wide variations associated with changes in the reserve ratios of either the Reserve banks or the commercial banks. This has been increasingly the case with the rise of central banking and active credit control. On an international gold basis, it is true, one country cannot long pursue an expansion policy unless the others do likewise. However, each country has some leeway, and if all are contracting or expanding together the movement may go a long way before any real check applies.



The accompanying diagram may aid in visualizing these relationships. The general price level emerges as a consequence of interactions between the quantity of circulating money and the demand for a fund of real value in money form. When the value of the money unit is thus determined, it is transmitted to the value of the monetary gold stock. In addition to what has already been said, this line of causation is supported by the fact that gold owes the greater part of its value to monetary demand. World gold production is divided between monetary reserves and the industrial arts in roughly equal parts.

The dollar volume of gold in the Treasury is determined by the net balance of international trade and capital movements. Both the existing world stock and new production are distributed by the process of settling international balances. In addition, the dollar amount may be written up or down by a revaluation, such as that of January, 1934.

Member bank reserve deposits, the proximate basis of circulating deposits, are governed principally by Reserve System policy. Minimum reserve requirements of Reserve banks may be suspended by the Board, or might be changed by Congress. Furthermore, the Board may alter member bank reserve requirements within the range of 7 to 14, 10 to 20, and 13 to 26 per cent for the various classes of banks.

In fine, the monetary standard does not *determine* the value of the money unit simply because the values of the two are bound together by interconvertibility. In reality, this implies nothing with respect to the direction of cause and effect. The influence of the standard upon the price level is exerted indirectly through its effect upon the quantity of circulating money. Moreover, under modern conditions, this influence is so cushioned by central bank controls that it merely sets a rather flexible outer limit to expansion.

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CHAPTER XXI

FOREIGN EXCHANGE

Foreign exchange is simply the financial aspect of world trade and capital movements. Payments for valuable things imported and receipts for valuable things exported are effected through the foreign exchange market. Thus, the importance of foreign exchange to a country is directly proportional to the significance of its international economic relations. For example, in a country such as England, in which exports represent 20 to 25 per cent of total production, international finance is of much greater relative importance than in the United States, where exports seldom are more than 7 or 8 per cent of total output.

One cannot, however, measure the generic importance of a country's foreign trade on the foregoing basis. Even in the United States, in which the proportion of exports is far below that of most countries, the sacrifices of living in economic isolation would be unbearable. The standard of life would be painfully altered and lowered, owing to the lack of products now imported. Furthermore, the liquidation of the export industries during the transition period would entail widespread unemployment and other maladjustments for a generation or more. Consider, for example, the fate of the whole cotton belt which normally exports about one-half the crop!

I. THE ECONOMIC BASIS OF FOREIGN EXCHANGE

1. ORIGIN

Foreign exchange has its origin in international trade and finance. International trade is carried on because it is profitable. That is to say, the importer in New York City who can buy golf hose in Scotland, have them delivered to him in New York City at the equivalent of \$3.00 a pair, and sell them to American retailers at \$3.50 a pair has sufficient reason in this profit to carry on the trade. The businessman simply explains it as a matter of profit. However, it is desirable at times to go

deeper into underlying causes. The products that a country can profitably export are those in the production of which it enjoys the largest comparative advantage, or suffers the least comparative disadvantage. On the other hand, a country tends to import the commodities in the production of which it has the greatest relative disadvantage. Apart from political controls, such factors as climate, soil qualities, topography, natural resources, and acquired skills of different peoples are the principal determinants of the character of trade.

International finance transactions are also effected through the foreign exchange market. Some countries become creditor nations by the purchase of foreign securities; others become debtor nations by the sale of their securities abroad. This in turn gives rise to international interest and dividend payments. Just as in the case of commodities, such capital movements occur under the stimulus of the profit motive, and likewise find their basic explanation in the law of comparative costs.

2. FOREIGN AND DOMESTIC TRADE

International trade and finance differ in no basic way from domestic trade and finance. The same reason that leads the apple growers of the Wenatchee Valley in Washington to raise and export apples to other parts of the United States leads the International Harvester Company to export agricultural machinery to Russia. Or, if we apply the same principle to finance, we may say that the reason that the banker in the Middle West transfers funds to a bank in New York City is the same as that of a bank in New York City for transferring funds to London. In the case of international trade and finance, transactions are carried on because they are profitable; in the case of domestic trade and finance, transactions are carried on for the same reason. Fundamentally, then, the same economic principles determine international trade that determine domestic trade.

There are, however, political and legal differences that raise peculiar problems with respect to foreign trade. First, the monetary laws of countries vary widely. Each leading nation has a separate monetary unit the value of which fluctuates in terms of foreign money units. Foreign trade therefore involves the conversion of one country's money into that of another. Second, an exporter must conform to the commercial laws of the

foreign country. He is usually subject to the same regulations that apply to domestic trade in the country and in addition to special restrictions with respect to imports. Practically all countries levy tariff duties, and, since the depression, complicated exchange restrictions and quotas have also become general.

3. THE BALANCE OF INTERNATIONAL PAYMENTS

A nation's balance of international payments is an itemized account of the commercial and financial transactions consummated with all other countries within a stated period of time. Table-22 shows the international accounts of the United States prepared by the Department of Commerce for the years 1934 and 1935.

The accounts for each year, it should be observed, are classified as "debits" and "credits." The former term refers to those transactions that give rise to payments by the people of the United States to foreigners, *i.e.*, imports of goods, services, and securities. Credits, on the other hand, include all transactions that call for payments by foreigners to us, *i.e.*, exports of goods, services, and securities. Since in a basic sense exports are the means of payment for imports, by definition the debits and credits must balance. Hence, the residual item at the bottom of the table represents unmeasured or incorrectly estimated items.

The various items of the balance are ordinarily classified as "visible" and "invisible." In the former category are the merchandise exports and imports, and movements of gold and silver. These items are *visible* in the official custom-house reports. The different service and capital items comprise the "invisible" group. In general, less complete information concerning the amounts of these elements is available, and reliance must be placed, therefore, upon intelligent estimates. The capital items may best be viewed as exports and imports of stocks, bonds, and other evidences of indebtedness. But an import of securities is often spoken of as an *export* of capital with emphasis upon the goods or money counterpart of the transaction.

Emphasis should be placed upon the intimate interrelationships among the various debit and credit items in the balance. For example, the large inflow of gold to the United States in 1935 (a debit) was closely associated with the purchase of our

TABLE 22.—UNITED STATES BALANCE OF INTERNATIONAL PAYMENTS,
1934-1935*(In millions of dollars)*

Item	1934 (revised)			1935		
	Receipts from foreigners for "ex-ports" (credits)	Pay-ments to for-eigners for "im-ports" (debits)	Net credits (+) or debits (-)	Receipts from for-eigners for "ex-ports" (credits)	Pay-ments to for-eigners for "im-ports" (debits)	Net credits (+) or debits (-)
Trade and service items.						
Merchandise	2,133	1,655	+ 478	2,283	2,047	+ 236
Merchandise adjustments	88	85	+ 3	105	86	+ 19
Freight and shipping	61	96	- 35	63	99	- 36
Tourist expenditures	86	331	- 245	117	403	- 292
Immigrant remittances	5	105	- 100	5	92	- 87
Charitable, educational, and other contributions		31	- 31		28	- 28
Interest and dividends	493	126	+ 367	521	146	+ 375
War-debt receipts	1		+ 1			
Government transactions (excluding war-debt receipts)	31	68	- 37	28	83	- 55
Miscellaneous services	103	43	+ 60	116	40	+ 76
Total trade and service items	3,001	2,540	+ 461	3,238	3,030	+ 208
Gold, silver, and currency						
Gold exports and imports	53	1,187	- 1,134	2	1,741	- 1,739
Gold earmarking operations (net)			- 83			
Gold movements (net)	.		- 1,217			- 1,739
Silver exports and imports	17	103	- 86	19	355	- 336
Paper currency movements (net) . . .	30	56	- 26	30	31	- 1
Capital items.						
Reported movement of short-term banking funds (net)			+ 192	.		+ 970
Reported long-term capital movements	1,160	958	+ 202	2,009	1,547	+ 462
Miscellaneous capital items (net) . . . . .	.		- 8	.		+ 105
Residual item (net)	.		+ 482	.	.	+ 331

SOURCE: U S Department of Commerce, The Balance of International Payments in 1935, *Trade Information Bulletin* 833, p 2

short-term and long-term securities by foreigners (a credit). But the gold inflow might have been induced by either increased purchase of our goods and services by foreigners (credits) or decreased purchase of foreign goods, services, and securities by us (debits). Thus, in theory an enlarged debit item may have its counterpart in increases of certain credit items, decreases of other debit items, or a combination of the two; and vice versa for an enlarged credit item.

In practice there is considerable difference in the adjustability of the various items. Shifts in bank balances and commercial credit ordinarily adjust temporary discrepancies. Then if the disequilibrium persists, a balancing movement of gold may occur. Next in the order of adjustability come shifts in long-term investments, and certain relatively flexible subdivisions of the merchandise and service items. Some of the latter items, however, such as coffee imports and interest payments, are quite rigid in nature.

In further interpretation of Table 22, it should be noticed that the United States had a favorable merchandise trade balance in both years. That is, exports exceeded imports. Such a relationship has characterized American trade since the 1880's. The sizable net debit, "tourist expenditures," and the somewhat larger net credit, "interest and dividends," have consistently appeared in the balance since the World War. Both gold movements and capital movements reflect the abnormal international conditions of the depression. The average annual gold movement in the decade, 1922-1931, was less than \$200,000,000. Again, the vast influx of short-term banking funds in 1935 reflected in the main a temporary flight from the gold-bloc currencies.

II. FOREIGN EXCHANGE INSTRUMENTS AND TRANSACTIONS

1. INTERNATIONAL PAYMENTS

Foreign trade is mediated trade. It is mediated by bank credit in the form of various instruments used in foreign exchange. The human mind, ever seeking better and more economical methods for consummating business transactions, has evolved these instruments to eliminate many of the difficulties of pure barter and the international payment of money.

We may well show this dependence of international trade and finance upon credit by taking an ordinary illustration of an export and import transaction engaged in by four individuals. A is an importer in New York and B an exporter in New York, while C is an exporter in London and D is an importer in the same place. Let us assume that A, after making the necessary arrangements by mail, has ordered some cutlery to the value of \$1,000 from C in London; and that B in New York has sold tractors worth \$1,000 to D in London. It is possible that A might send \$1,000 in gold to C and D might send \$1,000 in gold to B. This, however, would be a cumbersome and expensive process, since the gold would have to be secured from banks, boxed up, insured, and the shipping charges paid. If it were possible for B to know A and for C to know D, then the whole transaction could be settled by having A pay B and D pay C. The amount is the same in each case; and settling in that manner would save the expenses occasioned by shipping the gold. Unfortunately, A does not know B, and C does not know D. It is possible, however, for buyers and sellers to get together indirectly by means of a middleman. What they can do is to go to an international banking house with their exchange bills and documents evidencing the shipment of goods and sell them. Thus, B after shipping his tractors could draw a bill upon D, attach the necessary documents, and sell it to a banker. The banker could then sell a foreign exchange draft for the same amount to A who owes C. A then sends the bill to C who converts it into English money at his bank. There still remains the question how the New York bank is to collect the money due it through the purchase of the bill from B. This bill will be sent to its London branch or correspondent, which in turn will collect it from D. In this way, the goods are paid for without shipping any gold.

The preceding illustration showed that the trade was mediated by means of credit instruments. No gold was shipped. In order to conduct such trade the buyers and sellers must have confidence in each other, for without confidence credit instruments are of little or no avail. Such confidence in the case of international trade is generally based upon the pledge of a bank to accept drafts drawn upon it in settlement for the import. This procedure in effect substitutes bank credit for individual credit—the credit of a

credit-granting institution for that of a person. It makes possible the use of credit instruments, and these in turn economize the use of gold.

Transactions involving international finance likewise do not ordinarily lead to a shipment of gold but are mediated through credit instruments. For example, the city of New York was accustomed for some time before the outbreak of the World War to sell its tax warrants in the spring of the year to English investors. In such cases the warrants were attached to bills of exchange drawn upon the purchasers and then sold to the foreign exchange dealers, who credited the city of New York with the proceeds of the sale. Such bills with the collateral were then sent to English bankers, who proceeded to collect from the purchasers of the warrants and then gave the New York exchange dealer credit for the proceeds. In the fall of the year, when the warrants were due, the city of New York purchased bills of exchange in the exchange market and sent them over to meet the maturing obligations. The supply of foreign exchange was usually large at that season as a result of exports of cotton and wheat. In this manner the city of New York obtained its funds by borrowing and repaid the borrowing without shipping any gold. The whole investment banking transaction was mediated through credit instruments.

The foregoing examples were based upon trade and finance between two countries. In actual operation trade and finance are frequently carried on among many countries, but the same principles apply. The transactions are mediated by means of credit instruments which offset the claims of one country on a second country and the claims of the second country on a third country. For example, the trade between the United States, Great Britain, and Brazil is paid for in a roundabout manner. We sell a great deal to Great Britain but buy comparatively little from her. Great Britain sells much to Brazil but buys little from her, and we buy a great deal from Brazil, mostly coffee, but send her comparatively few goods. How is the trade paid for without sending gold? We have claims on Great Britain; Great Britain has claims on Brazil; and Brazil has claims on the United States. We can pay our obligations to Brazil by sending her sterling exchange and Brazil can in turn use this sterling exchange to pay Great Britain. In this way, the tri-

angular trade can be effected and paid for without the shipment of gold. The same principle applies if the trade is between many countries. The claims of one country to money in another country are frequently used to pay for imports from various other nations.

2. FOREIGN TRADE INSTRUMENTS

Practically all international commodity trade is financed by means of letters of credit and bank acceptances. Technically, a letter of credit is a written agreement directed by a bank to a seller of merchandise, at the request of a buyer, authorizing the seller to draw drafts under certain stipulated conditions, and promising to accept such drafts. Assume, for example, that the American Importing Company makes application for a letter of credit to the amount of \$50,000 at the Guaranty Trust Company and is notified that the bank is willing to substitute its credit for that of the importer. By so doing, the bank standardizes the importer's credit and makes it acceptable to a foreign seller. Such a letter of credit is a sort of "blanket" document, against which drafts can be drawn. After acceptance by the drawee bank, the drafts are known as "bank acceptances," the bank having assumed full responsibility for payment at maturity.

The letter of credit is numbered, states the name of the beneficiary, the total amount for which it is available, and also gives the conditions under which drafts will be accepted by the bank. The shipper of the goods, say a sugar exporter in Java, is notified that the letter has been granted and that drafts drawn under its terms will be honored provided all the terms are complied with. The exporter of sugar in Java then ships 10,000 bags of sugar and draws a draft upon the Guaranty Trust Company for, let us say, \$25,000, attaching the marine insurance policy, bill of lading, and consular invoice to the ninety-day draft. The exporter then sells this draft to his local Java bank at the going rate and is out of the transaction. The draft is next sent by the Java bank to its New York correspondent, say the Chase National Bank, with instructions to present it to the Guaranty for acceptance. Upon presentation the Guaranty accepts the draft, detaches the documents, and turns it back to the Chase, which may either sell the acceptance in the open market or hold it until maturity, depending upon instructions from the Java

bank The latter may then utilize the proceeds of the dollar acceptances to build up its dollar balances in New York which balances in turn may be sold to an importer of Gillette razor blades or Royal typewriters in Java.

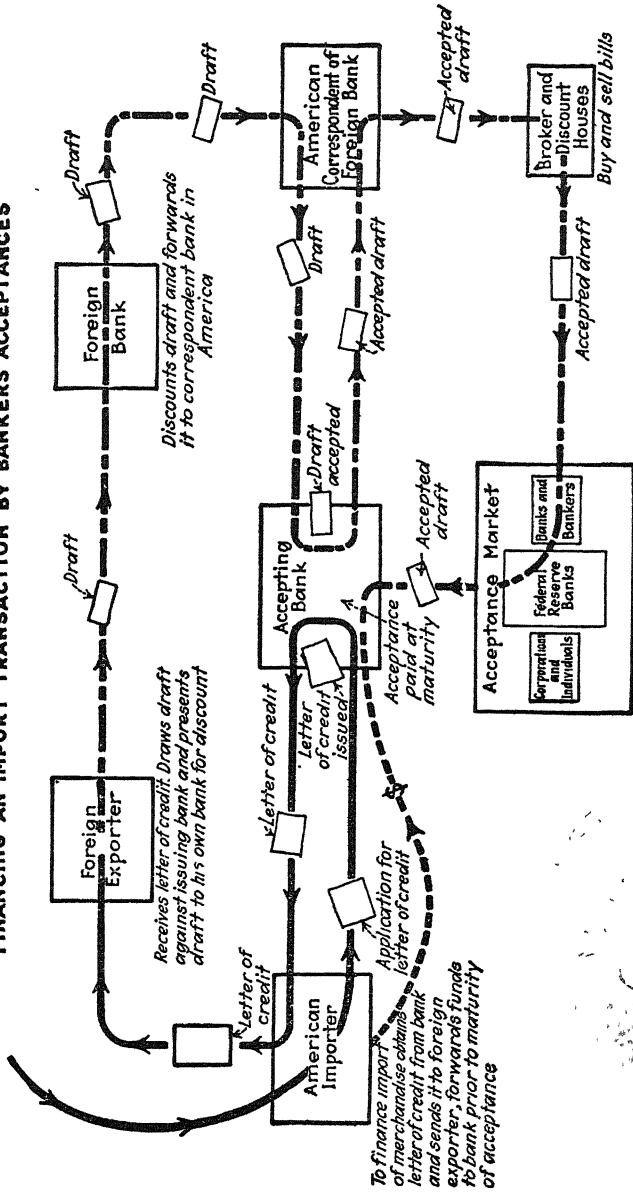
The importer is now faced with the problem of getting his sugar and selling it. The title to the sugar is vested in the Guaranty Trust Company, which has the bill of lading entitling it to possession. It may store the sugar in a warehouse and release it upon evidence of sale by the importer. In any event, the latter gets the sugar, sells it, and, before the draft is due, puts the Guaranty in possession of funds to meet the draft. Later, additional shipments of sugar may come. All must be evidenced by the necessary documents attached to the draft drawn under the provisions of the letter of credit. When the total amount of the drafts equals the amount stated in the letter, the credit is exhausted. It is to be noticed in such cases that the bank which issues the letter of credit and accepts the drafts does not advance a cent of its money. It only sells its good name to the importer and receives a commission for the service.

Chart 13 illustrates such a transaction. The American importer makes an application to his bank for a letter of credit. This is granted, and the arrows show clearly the course of the transaction from the time the letter of credit is issued until it is paid. It is important to note that this transaction is financed by the acceptance market. Prior to the maturity of the draft, as the dollar line indicates, the importer places sufficient funds with his bank to meet the acceptance.

American banks are to an increasing extent financing trade between foreign countries. A sugar importer in Hamburg may ask his local bank to finance the shipment of sugar from Havana to Hamburg. The Hamburg bank gets its New York correspondent, say the Central Hanover Bank and Trust Company, to accept drafts drawn against the shipment. The exporter in Cuba being notified of this ships the sugar, draws the dollar drafts in accordance with the instructions, sells the drafts to his local bank, and is out of the transaction. The local bank then forwards the drafts and documents to its New York correspondent, which in turn presents them to the Central Hanover for acceptance. The procedure then is just the same as in the preceding illustration, except that the drafts are forwarded to

CHART 13.

FINANCING AN IMPORT TRANSACTION BY BANKERS ACCEPTANCES



the Hamburg bank. In the meantime, the original documents have gone to the Hamburg bank direct from Havana, and the Hamburg bank makes arrangements for the importer to get his sugar. A few days before the acceptance falls due in New York, the Hamburg bank, having been reimbursed by the sugar importer, sends the Central Hanover the necessary dollar exchange to meet the acceptance. In such cases the Central Hanover is protected because it looks to the Hamburg bank for payment. The Hamburg bank in turn looks to the sugar importer for payment. Each bank receives a fee for its work.

Thus far in the discussion of financing international trade, we have assumed the usual practice in which the creditor draws a draft upon the debtor's bank. In some cases, however, the terms of sale require the debtor to take the initiative in making payment. Prepayment for goods may be necessary, or purchases may be made on open account with a prearranged credit period. Under such circumstances, the importer ordinarily remits by means of a *banker's demand draft*; if there is need for haste, he may employ a *cable*.

A banker's demand draft is drawn by a bank of one country upon a foreign bank with which it maintains a balance. It thus differs in no essential way from a domestic bank draft. An importer may purchase such an instrument at his bank with domestic money in the exact amount of his foreign debt. A cable is in reality a demand draft sent by telegraph. The price of a cable is always higher than an ordinary demand draft, owing to the fact that the bank's foreign balance is drawn upon immediately, instead of after a collection period.

3. INSTRUMENTS FOR INTERNATIONAL FINANCE

While the majority of finance transactions are directly related to trade, a great many of them are almost purely financial in character. For this phase of foreign exchange operations, certain specialized instruments have been devised.

a. Finance Bills

Finance bills are a species of bankers' long bills drawn for the purpose of lending the short-term banking funds of one money market in some foreign financial center. Such bills may come into being on the initiative of the foreign banker or of the Ameri-

can banker. For example, Barclays, a large English bank, noticing the high discount rate in the New York money market and the dollar exchange rate, may see a chance to make a profit by loaning its money in the New York money market. It may, therefore, instruct its correspondent in New York City to loan out in New York £50,000 after having come to an agreement as to interest rates, commission, and the like. The New York correspondent then draws a draft for £50,000 on Barclays Bank for 90 days and sells it in the exchange market. The proceeds of the 90-day bill in the form of dollars are then turned over to a borrower in New York after the borrower has deposited suitable collateral with the New York bank. The exchange house that purchases the draft then sends it to England, where it is soon presented to Barclays for acceptance. After being accepted, it may be held or sold in the London market. Before the 90 days are up the borrowers pay the New York correspondent of Barclays the loan plus the interest. The loan is paid in dollars, and, therefore, such loans are called *dollar* loans. Then the New York correspondent buys a bill for £50,000 and sends it to Barclays. This bill takes care of the 90-day draft at maturity.

Sterling or mark or franc loans involve almost the same procedure as dollar loans except that the loans are made in terms of sterling, francs, or marks, and the risk of the exchange fluctuation is borne, therefore, by the American borrower instead of by the banks.

Cable transfers are also frequently used by banks to shift funds from one money market to another in order to take advantage of high discount rates.

b. Arbitrage Transactions

Another use of the cable transfer is in connection with arbitrage transactions. Arbitrage in foreign exchange is an operation to profit by variations in the cost of the same currency in different markets.

Arbitrage operations, then, embrace two or more countries and can be advantageously used only when the cost of the same currency is out of line or equivalence in two or more markets. That is, if the sterling cable rate in New York on London is \$4.86 while the dollar cable rate in London on New York is equivalent to \$4.862, then the two currencies are not in equiv-

alence, and arbitrage operations are profitable. When such operations are carried on between traders in two countries, it is called a "two-point arbitrage"; if between traders in three countries, a "three-point arbitrage"; and so on. These slight variations in the cost of the same currency in different markets exist for but a short time. For this reason such operations are always carried on by means of cable transfers in order to take immediate advantage of the discrepancy.

In order to make arbitrage operations concrete, it may be well to give an illustration of a two-point arbitrage conducted by cable. Let us assume that the arbitrage trader discovers in the morning that the cable dollar rate in London on New York is equal to \$4 86 while the cable sterling rate in New York on London is \$4.865. In this illustration there is a difference in the cost of the same currency in the two markets because a pound in London is worth 0.5 cent less than it is in New York. This difference makes an arbitrage transaction possible.

Accordingly, the New York trader cables his London correspondent to sell \$100,000 of cable which, at the cable rate, adds £20,576 2s. 7d. to his London account. He next sells cables in New York to the amount of £20,576 2s. 7d., which gives him in American money \$100,102.87. The gross profit on the transaction is \$102.87. Out of this amount he must pay the cable cost and the commission to his London correspondent

Three-point arbitrage differs in no essential respect from two-point arbitrage except that three international money markets are involved instead of two. In order for the transaction to be profitable there must be a difference in cost of the same currency in at least two of the markets

4. FUTURE EXCHANGE

The purchase and sale of futures is a type of foreign exchange transaction enabling exporters and importers to eliminate the risk of exchange rate fluctuations. An exporter may have an order for goods to be shipped to London three months hence with payment to be made by drawing a 90-day bill on the Midland Bank. In order to be sure of the rate he may enter into a contract with a bank to deliver to it a 90-day bill three months hence. By doing so he has protected himself against a decline in the exchange rate. The bank to which he sold the bill may then

either sell 90-day bills up to the amount of the bill purchased or sell futures deliverable in 90 days up to the amount of the purchase. Conversely, an importer knowing that he will be obliged to meet a 90-day draft drawn for £5,000 against long-staple Egyptian cotton can arrange for his bank to sell him that amount of exchange to be delivered to him at the proper time. The purchase and sale of these futures is of distinct advantage to exporters and importers, because exchange uncertainty is eliminated and they are able, therefore, to compute their costs and selling prices more accurately. This is especially true of middlemen such as brokers and dealers in wool, sugar, coffee, and other international commodities.

5. INSTRUMENTS FOR TRAVEL

The demand for foreign exchange in the United States arising from travel abroad forms a significant item in the balance of payments. For example, tourist expenditures of Americans exceeded \$600,000,000 in every year during the period, 1924-1930. In 1935, they amounted to \$409,000,000.

a. Travelers' Letters of Credit

An individual who desires to travel abroad goes to a metropolitan bank and buys a travelers' letter of credit. He is given a four-page document, folded and placed in a neat leather case. This document is numbered, introduces the beneficiary to the correspondents of the issuing bank, and states the total amount of money to be advanced. The beneficiary of the letter of credit is furnished with a list of the correspondent banks where he may obtain funds. His signature is used to check up the genuineness of the instrument. As each bank pays certain amounts of money to the beneficiary, the sum is entered in the appropriate place, and when the last money has been paid the paying bank takes the letter of credit and returns it to the issuing bank.

To make the illustration concrete, let us assume that John Doe has bought a letter of credit for \$3,000 from the Bankers Trust Company in New York City. Being in need of funds in Paris he goes to the branch of the Bankers Trust Company and receives the equivalent of \$100 in francs. To obtain this money he signs a draft, and the signature is compared with his signature on the letter of credit. The amount (\$100) is then entered in the

appropriate place in the letter of credit and the draft returned to the New York office of the Bankers Trust Company.

If this bank had no branch in Paris, the beneficiary of the letter of credit would have gone to the Paris correspondent of the Bankers Trust Company and obtained the money. The Paris correspondent would then have sent the draft either directly to the Bankers Trust Company or indirectly through its New York correspondent.

b. Travelers' Checks

A traveler may also use travelers' checks instead of a letter of credit when going abroad. The checks issued by the American Express Company have come to be very popular in this field. Such checks may be issued in dollars, francs, or pounds, but because of the depreciation of the exchanges they are now most frequently issued in dollars. Such dollar checks are issued in denominations of not less than \$10. Each check is a separate instrument and must be signed by the buyer in the upper left-hand corner at the time of purchase. Then as the check is converted into foreign money, it is signed at the bottom and the two signatures are compared so as to avoid fraud. The conversion rate of these dollar checks into foreign money is the buying rate of exchange for sight drafts on New York.

III. THE FOREIGN EXCHANGE MARKET

1. CHARACTERISTICS

The market for foreign exchange is an open one so that any person can buy or sell foreign exchange without any difficulty. In this respect the foreign exchange market is quite unlike the New York Stock Exchange, where one must buy a seat, be over twenty-one years old, sign the constitution of the exchange, and do other things before one can buy and sell securities directly on the floor of the Exchange. There are no such requirements to be met in order to buy and sell foreign exchange. Moreover, foreign exchange is not bought and sold in one particular building. Instead, it is bought and sold by large banks all over the country in an informal market. On the continent of Europe, it is true, the buying and selling of foreign exchange is confined to the bourses or stock exchanges, but such is not the case in London or New York, where the market is perfectly open.

A second feature of the foreign exchange market is its world-wide character. Such a market is one in which a commodity is bought and sold in the different centers of the world and where the price is influenced by international conditions. New York is not only the foreign exchange center of the United States, but it also occupies an important position in the world exchange market. Sterling, dollar, and franc exchange, for example, are bought and sold in all leading cities of the world at rates largely governed by international economic and financial conditions.

Still another feature of the market is its extreme sensitivity to changing conditions. This arises in part from the nature of foreign exchange itself. Claims to foreign money may be transferred by mere book entries of international bankers. Unlike commodity trade, the obstacles of time and cost of shipment present little difficulty. Other factors contributing to sensitivity are the world-wide nature of the market, its perfect organization, and the dispatch with which a transaction can be completed by cable or wireless communication. Distance is measured not in miles, but in minutes. A transaction between London and New York is executed in less time than it takes to walk one-half mile.

2. FUNCTIONS

The function of the foreign exchange market is to bring buyers and sellers together and to evolve rates that equate the demand and supply of foreign exchange. Through this market foreign debits and credits are in large part canceled against each other. Buyers can secure the necessary exchange to meet their foreign obligations and sellers find in the market a place where they can convert their foreign bills into the native currency. The dealers who buy these foreign exchange instruments send them to their foreign branches or foreign correspondents, thereby building up their foreign balances. Against these balances, they sell foreign exchange to those who need it to meet foreign obligations. An exporter of typewriters, for example, who has shipped a consignment to an English importer and has drawn a 60-day bill upon the importer, is able to sell this bill and secure his money at once. This bill in turn may build up the balance of the National City Bank in London; and an American traveler may buy the equivalent of this balance from the National City Bank by purchasing a traveler's letter of credit and using it in England.

3. GROUPS IN THE FOREIGN EXCHANGE MARKET

The different parties operating in the foreign exchange market may be divided into three groups—buyers, sellers, and dealers who act as middlemen between the other two classes.

a. Buyers of Foreign Exchange

One can best visualize the various divisions of the buyer group in the exchange market by again consulting Table 22, page 361. All imports (debit transactions) give rise to a demand for foreign exchange in order to make payment. Commodity imports, such as rubber, coffee, sugar, silk, paper, vegetable oils, and tin, constitute the largest sources of demand. In addition, tourist expenditures, interest and dividends on our securities held abroad, shipping charges, and imports of foreign securities are all important items. Also, the shift of short-term banking funds from the New York market to foreign financial centers is at times a significant demand factor.

b. Sellers of Foreign Exchange

If imports account for the demand for exchange, then exports (credits) are responsible for the supply. Merchandise exports form the largest category, in which the most important commodities are cotton, machinery, petroleum products, automobiles and accessories, tobacco, and chemicals. The sale of these and other things gives our exporters claims on foreign money which take the form of drafts drawn on the banks of foreign importers. Upon collection of these drafts, American bank balances abroad, the main foreign exchange reservoirs, are enlarged.

Other significant divisions of the seller group are the receivers of interest and dividends on foreign securities, the exporters of shipping, financial and other services, and the exporters of long- and short-term securities.

c. Foreign Exchange Dealers

There are numerous dealers in foreign exchange just as there are numerous dealers in stocks and bonds, in hats and shoes, in wheat and corn. These dealers often operate on both sides of the market at the same time. A New York bank may be anxious to buy sterling exchange at one time and not be interested

in buying any other exchange at the same time because it already has a sufficient supply. Again, it may be interested in selling and not in buying foreign exchange. Just as a dealer in men's furnishings plans to buy the kinds of articles he can sell, so a foreign exchange dealer plans to buy the kinds and maturities of exchange which are in demand.

Metropolitan Commercial Banks. The large metropolitan banks, such as the National City Bank, the Guaranty Trust Company, and others which have foreign exchange departments, occupy an important place in the foreign exchange market. Five or ten of these large banks are on the market daily, buying and selling foreign exchange. Some of them have branches abroad while others have correspondents scattered all over the world. Such banks are in a position to satisfy the small buyer who wants to remit money to London as well as to satisfy the foreign exchange needs of their large clients who are engaged in exporting or importing.

Many of these banks maintain an agency relation with smaller banks in the interior. One may read in the advertisement of a small bank that it buys and sells foreign exchange. Almost invariably it does this as an agent for one of the large New York banks which makes an agreement with the small bank allowing it to sell sight drafts in small amounts on the leading financial cities in Europe. These small banks simply extend the range of operations of the larger New York banks and quote prices which they receive either daily or weekly from their principals.

The large private banks, such as J. P. Morgan and Company, also play an important role in the international exchange market, especially in connection with flotations of foreign securities and with interest receipts and payments on securities of their clients.

Dealers and Brokers. Then there is the dealer or broker in the technical sense. Such dealers are invariably specialists in the foreign exchange field and are really an invaluable adjunct to the market. They seldom buy and sell exchange outright but act as agents for some of the larger business corporations in the interior who need a specialist to look after their foreign exchange requirements whether purchase or sale. The dealer may also do this same work for a number of smaller banks throughout the country.

The dealer is a welcome visitor at the large banking institutions because he is often able to supply them exchange of the proper maturity to fit their needs and also to buy from them suitable exchange to satisfy the demands of his clients. Such dealers are paid a small commission for this work—a commission justified by the prices at which they are able to buy and sell foreign exchange for their clients.

Closely related to the dealers are the brokers who are sometimes erroneously called dealers. They go from bank to bank and ascertain the amount of exchange offered and the selling rates as well as the buying rates. They are then able in some cases to bring the buyer and seller together. For this work they receive a small commission. Their importance in the market is declining because the banks are transacting most of this business over the telephone.

Foreign Banks. Foreign banks have both a direct and an indirect relationship to the foreign exchange market. The direct relationship comes through the establishment of foreign agencies, most of which are located in New York City and are subject, therefore, to the New York State law which does not permit the establishment of branches of foreign banks.¹

The work of these agencies is limited by law to buying, selling, and collecting bills of exchange; receiving money for transmission or transferring it by drafts, cables, checks, and other means; issuing letters of credit; and making sterling and other loans. All other banking functions are denied these agencies. Much of their work is confined to buying, selling, and collecting bills of exchange; and it is in this capacity that they perform a useful though limited work in the foreign exchange market.

Foreign banks also have an indirect relationship to the foreign exchange market. Many such banks maintain correspondents in New York City, and these correspondents are frequently asked

¹ Because of these legal prohibitions, some foreign banks have created subsidiary banks in New York under the designation of state banks or trust companies; such subsidiaries enjoy the privileges of domestic banks, although control is exercised by foreign banks through stock ownership. There are a few branches of foreign banks in the United States. For a discussion of this subject see C. W. Phelps, *The Foreign Expansion of American Banks* (New York, Ronald Press Company, 1927), pp. 197-203.

to purchase acceptances for the account of the foreign banks. It is impossible to state exactly how much business of this kind is transacted by the commercial and private banks, but it is thought to be large. The large central banks of the world have entered into correspondent relations with the Federal Reserve Bank of New York acting for all the Federal Reserve banks. These foreign central banks maintain deposits with the Federal Reserve Bank of New York and may ask it to purchase bankers' acceptances which have been endorsed by the Federal Reserve banks. Such acceptances appear in the weekly statement of the Federal Reserve banks as a contingent liability on bills purchased for foreign correspondents.

IV. FOREIGN EXCHANGE RATES

Foreign exchange rates are the prices in one country of foreign money units payable in the respective foreign nations. Thus, such rates constitute merely a broadened aspect of the domestic value of money treated in Chapter XX; they measure the *external* purchasing power of the local currency, whereas we have previously been concerned mainly with its *internal* purchasing power. In view of the fact that these rates govern both the costs of imports and the selling prices of exports, they have a profound effect upon the whole economy of a trading nation. When, for example, the price of the pound sterling in New York dropped from \$4.86 in September, 1931, to \$3.25 in December, owing to England's departure from gold, our export trade was seriously crippled. The United States became an expensive place in which to buy. As a consequence, unemployment in the export and related industries became more serious. At the same time, many of our established industries sought additional tariff protection against foreign imported goods that almost overnight became one-third less expensive.

1. RATES FOR DIFFERENT TYPES OF BILLS

We may well begin our discussion of foreign exchange rates by examining the difference between rates for different types of foreign exchange bills. The following exchange rates on Great Britain were quoted on September 18, 1926:

Demand	\$4 85125
Cables	4 855
Commercial bills 60 days	4 81
Commercial bills 90 days	4 79187

Here we have exchange rates on the same country varying from \$4.79187 to \$4 855, or a difference of more than 6 cents a pound.

The differences between the prices of the various foreign exchange instruments on the same country at a given date are to be explained partly by the time element and partly by the discount rate. Cables are the most expensive because they are payable within a few minutes and, therefore, result in an immediate reduction of a bank's foreign balance.

Demand drafts are payable upon presentation. They are sent by mail and the owner may obtain the foreign money as soon as he presents the draft for payment. Since it takes from five to eight days for the demand draft to get to London, a banker who sells such a draft continues to receive interest on his foreign balance for this period after selling a draft. For this reason, demand drafts sell for less than cables.

The difference between the prices for 60- and 90-day drafts is due to the time element and discount rate. In effect it amounts to the difference between discounting a note for 60 days and one for 90 days. A promissory note discounted for 90 days is worth less than one discounted for 60 days. Likewise, 90-day bills sell for less than 60-day bills. Just how much each pound bill is worth is determined by the discount rate for such bills in the London market. If the rate is low, say 4 per cent, then the present value of the 90-day bill is very close to its face value; if, however, the discount rate for such bills is 6 per cent, the present value of the 90-day bill is less. In other words, a high discount rate decreases the present value of such bills. It is for this reason that the discount rate in the London market is watched very closely by foreign exchange dealers and traders. As a matter of fact, the supremacy of the sterling bill for the past century has in no small measure been due to the relatively low London discount rate

In order to make this problem more concrete, let us assume that the rate for a prime demand draft in New York on London is \$4.86 and that 60-day prime bills are being discounted at a

4 per cent rate in London. What will be the rate for a 60-day prime sterling bill?

Demand drafts	\$4 86
Interest for 63 days (3 days of grace) on \$4 86 at 4 per cent	0 03356
	<hr/>
	\$4 82664
British stamp tax 0 05 per cent face of amount	0 00243
	<hr/>
	\$4 82421

or about \$4.82¾.

Let us assume now that for various reasons the rate in the London money market advances to 6 per cent. What will the 60-day rate be, assuming that the demand rate remains the same? The computations are as follows:

Demand drafts	\$4 86
Interest for 63 days on \$4.86 at 6 per cent	0 0503
	<hr/>
	\$4.8097
British stamp tax 0.05 per cent of face of amount	0 00243
	<hr/>
	\$4.80727

The rate in this case has fallen to approximately \$4.807¼, or a decline of about 2 cents a pound, because of the increase in the bill rate in the London money market. If the bill rate in London should drop to 2 per cent, the interest would be just one-half what it was when the bill rate was 4 per cent. The face value of a 60-day bill would then be \$4.84079.

2. DETERMINATION OF RATES¹

As in the case of the domestic value of money, there are opposing schools of thought with respect to the forces governing the external value of a country's money. One group holds to some variety of the *balance-of-payments* theory; the other to some version of the *price-level* theory. In general, the members of the first group take little stock in the quantity theory of the

¹ The reader who is interested in a finely drawn classification and critique of exchange rate theories is referred to: H. S. Ellis, *German Monetary Theory*, 1905-1933 (Cambridge, Harvard University Press, 1934), Chs. XII-XVI. This discriminating analysis forms the basis for parts of this section.

value of money, while the members of the other group usually hold to some interpretation of the quantity theory.

a. Balance-of-payments Theories

Demand and Supply at the Surface. All are in agreement that a foreign exchange rate is a price which emerges from the interaction of the demand and supply of the exchange in question. Referring once again to the balance of payments on page 361, all the transactions classified as debits (imports) give rise to demand for foreign exchange, and all those classified as credits (exports) create the supply of foreign exchange. The foreign exchange rate, like any market price, is the rate that equates demand and supply, *i.e.*, imports and exports.

But this explanation is so superficial that it is little more than a mere truism. The real issues lie deeper, in the factors that explain demand and supply themselves. Does the balance of payments simply conform to international price relationships, so that price levels determine exchange rates? Or, do capital movements, and changes in the demand and supply schedules of international goods govern exchange rates and price levels? Since neither of these questions is answered by the foregoing explanation, it might just as properly be used as a starting point for a price-level theory as for a balance-of-payments doctrine. It is classified under the latter heading only because of its connection at the surface with the international balance, and the fact that most of its proponents so choose to classify themselves.

The Basic Form of the Doctrine. The more basic form of the balance-of-payments theory places emphasis upon changes in the terms of trade between countries, and upon international capital movements as the leading forces governing exchange rates and internal prices. For example, if the foreign demand for American cotton and machinery should rise substantially while our demands for foreign goods remained the same, changes in exchange rates and prices would be necessary to establish a new equilibrium. Under fiat paper standards, the adjustment would doubtless occur mainly through a rise in the international value of the dollar. But also there would very likely be a rise in the prices of cotton and machinery in the United States—at least relative to domestic prices—and a fall in both import and domestic prices, owing to the drop in foreign exchange rates. A similar

effect might be expected from heavy purchases of our securities by foreigners.

While the validity of this analysis is almost beyond dispute, there is still room for criticism of the overemphasis given to this line of causation by dogmatic sponsors of the theory. It is true that prices are affected by capital movements and changes in the terms of trade; but it is probably more often true that monetary expansion or contraction affects prices, which in turn influence the balance of payments and exchange rates. This leads us to further consideration of the price-level theories.

b. Price-level Theories

The distinguishing feature of the price-level theories is that the exchange rate between two countries is believed to depend upon the ratio between their respective price levels, or subdivisions thereof. That is, causation proceeds in the main from quantity of money to prices and, in turn, from prices to the character of the balance of payments and thence to exchange rates. There are, however, two distinct varieties of price-level theory: (1) the purchasing-power parity theory, and (2) the exchange-equilibrium theory.

The Purchasing-power Parity Theory. The leading exponent of the purchasing-power parity doctrine is Professor Gustav Cassel of Sweden. He originally set forth, in 1918, an *absolute* version of the theory: that the normal equilibrium rate of exchange between two countries is the quotient of their general price levels. That is, when a pound purchases five times as much in England as a dollar does in the United States, then the equilibrium rate is £1 = \$5. This represents a normal about which market rates fluctuate and to which actual rates tend to return.

A few years later Cassel revised the doctrine to a *comparative* basis which was somewhat less open to theoretical attack. According to the new statement, the current equilibrium rate is an old normal rate, assumed to exist in a selected base period, multiplied by the ratio between the two countries' price indexes, measured from a common base period. To use a concrete example, the wholesale price indexes of England and the United States (translated to a common basis of 1930 = 100) stood at 101 and 98, respectively, in December, 1936. If the mint par be used as the normal rate in 1930, then the purchasing-power

parity for December, 1936, would be $9\frac{3}{101} \times 4.866 = \4.72 . The actual rate on the latter date was \$4.91, so that by this measure the dollar was undervalued in the market about 4 per cent.

Even the comparative version of the purchasing-power parity theory is, however, subject to serious theoretical limitations. First, it is assumed that the exchange rate of the base year is a true equilibrium rate. This is unlikely to be true in a strict sense, and the error may be a very considerable one. Second, it is assumed that there has been no change in the relative prices of domestic and export commodities in either country. But in fact such changes are constantly in progress.

Third, since services do not enter into the formula, it is assumed that no change has occurred in the relative prices of commodities and export services in either country; and further that the proportion of the prices of exported articles represented by freight charges or other similar services in both countries has remained the same. Fourth, the assumption is made that no change has occurred in the various regulations influencing the flow of commodities and securities between the countries. In this age of tariffs, export subsidies, exchange quotas, embargoes, interference with capital movements, and organized boycotting the discrepancy from this source would necessarily be large. Altogether, these important limitations reduce the usefulness of the formula to that of giving a rough approximation of the equilibrium exchange rate when it is known that the disturbing changes have been slight.

The Exchange-equilibrium Theory. The exchange-equilibrium theory, set forth in 1922 by Professor A. C. Pigou of England,¹ constitutes a fine compromise between the two extreme positions just described. Instead of resting upon the ratios between the *general price levels* of different countries, exchange equilibrium is based upon the relative prices of *internationally traded* goods and services. That is, if wheat be taken as representative of all such goods and services, and if its price per bushel in New York and London be, respectively, \$1 and 4s., then the equilibrium rate of exchange is £1 = \$5. Stated somewhat differently, exchange equilibrium is that rate which eliminates any unusual profit from

¹ A. C. Pigou, *The Foreign Exchanges*, *Quarterly Journal of Economics*, November, 1922.

selling products in the American market as compared with the English market.

Commodity and security movements are the means by which the actual exchange rate is constantly driven toward exchange equilibrium. To continue the preceding illustration, if the actual rate on London should rise to $\text{£}1 = \$6$, then it would become highly profitable to buy American wheat and securities and sell them in England. The excessive profit in such trade would finally be eliminated by competition, and the rate would be driven back to the vicinity of $\text{£}1 = \$5$. Incidentally, it should be observed that a reasonably free movement of goods and capital between countries is a necessary condition to the working out of this adjustment process.

Although emphasis is placed upon monetary changes as they affect prices of international goods and exchange rates, the theory also recognizes the reverse balance-of-payments causation. That is to say, a shift in the terms of international trade arising from changes in the conditions of demand and/or supply is reflected in the relative price levels of international goods and is thence transmitted to exchange rates.

The exchange-equilibrium theory is free from the objections which were just enumerated with respect to the purchasing-power parity doctrine. Changes in tariffs and other trade regulations, in the internal price system, and in services are all recognized in the equilibrium rate.

c. The Case of the Gold Standard

Some revision of the usual analysis of exchange rates between gold-standard countries is called for by the exchange-equilibrium doctrine. Most writers in the prewar period explained exchange rates mainly in terms of the gold standard and gave slight attention to the problem under conditions of fiat paper money. The ordinary treatment defined the normal rate as the "par of exchange," i.e., the ratio between the mint prices of gold in the two countries. Rate fluctuations about the mint parity were explained by the method which we have labeled above as "supply and demand at the surface." In the postwar years far more attention was naturally given to the paper standard situation, but it was usually treated as an entirely separate and unrelated case.

The exchange-equilibrium theory has the advantage of providing a common explanation of both the metallic and fiat money situations. Under its broad aegis the gold standard becomes no more than a special application of the general principle. The common concept of the mint parity as the normal rate gives way, however, to the equilibrium rate based upon relative international prices. Only by chance would the two coincide.

The peculiar feature of the gold-standard case is that the exchange rate is limited in its fluctuations within a narrow band defined by the costs of importing and exporting gold. For example, under the old parity with England of £1 = \$4.866, the actual rate in New York could not rise above about \$4.882, or fall below \$4.841. A rate of \$4.882 covered the cost (including a small profit) of shipping a pound of gold to London. Therefore, the offerings of sterling exchange by bankers at this rate would become practically unlimited. If their foreign balance became depleted, it could be rebuilt by shipping gold. At the same time, no banks with facilities for gold export would pay more than this figure for bills to replenish their foreign balances. Thus, the combined influence of a nearly unlimited supply and a sharply reduced demand at the gold-export rate fixed a definite ceiling of fluctuation. By similar analysis one can easily explain why the gold-import rate of \$4.841 set the lower limit.

With exchange rates relatively fixed under gold, international adjustments take place largely through the effect of gold movements on prices. The loss of gold is a deflationary force, and addition to the gold stock is an inflationary influence. In sharp contrast, exchange rates are free to move under fiat money conditions, and they, therefore, become the chief means of reaching international equilibrium. It is true that readjustments may also be effected in part through price changes, but commodity prices are less sensitive and adjustable than exchange rates.

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CHAPTER XXII

BANKING DEVELOPMENTS DURING THE DEPRESSION¹

The numerous banking changes that have taken place during the great depression can best be discussed in successive stages. Down to and including the banking holiday in March, 1933, there were five quite clearly defined periods, each of which represented a new phase in financial developments:

1. October, 1929, to September, 1931. This period began with the disastrous collapse of stock speculation and ended with England's abandonment of the gold standard on September 21.

2. September, 1931, to February, 1932. The second period included the great "gold run" on the United States and the four succeeding months before a decisive program of financial relief was launched by the Government.

3. February to July, 1932. The third period was characterized by aggressive Government action through the Reconstruction Finance Corporation and the Federal Reserve banks. It also included the second "gold run."

4. August, 1932, to January, 1933. During the fourth period, considerable improvement occurred both in the domestic banking position and in world production. There appeared to be a tangible basis for hopes that the worst was over.

5. February to March, 1933. This short period witnessed a complete breakdown of the country's banks and their subsequent reopening under emergency regulations.

These five periods are described in the present chapter, and the financial developments of the business recovery phase are treated in the following one.

¹ Before reading this and the following chapter it is suggested that the reader study the Appendix at the end of the book. Some of the interpretations of recent banking developments assume an understanding of the various supply and demand factors operating in the money market.

I. THE FIRST PERIOD—OCTOBER, 1929, TO SEPTEMBER, 1931

1. BUSINESS CONDITIONS

Banking developments of the period can be fully understood only if viewed against the rapidly shifting business background. The country was entering the severest depression in history, with drastic declines in production, trade, employment, and prices. Production dropped 36 per cent, wholesale prices 25 per cent, farm prices 42 per cent, and stock prices 64 per cent ¹ Faced with such severe contraction, the banks of the country were necessarily subjected to heavy pressure.

2. THE STOCK MARKET BREAK

Changes in the banking situation in the last quarter of 1929 were dominated by the sudden break in stock prices which gained momentum in the third week of October. The standard Statistics stock price index dropped almost perpendicularly from 222.1 to 140.3 between the second week of October and the second week of November. This collapse was the most violent on record in so short a time. As prices fell, margin accounts became impaired, and successive layers of stock were thrown upon the market to protect the position of banks and brokers. Liquidation thus fed upon itself and begot more liquidation. The panic might have wrought even greater havoc had the avalanche of selling not been steadied somewhat by the operations of a large investment pool formed by leading security houses in New York City.

TABLE 23 —BROKERS' LOANS MADE BY REPORTING MEMBER BANKS IN
NEW YORK CITY ON SELECTED DATES
(*In millions of dollars*)

1929	Total	For own account	For out-of- town banks	For others
Oct. 23 . . .	6,633	1,077	1,733	3,823
Oct 30 ..	5,538	2,069	1,005	2,464
Dec. 31	3,424	1,167	709	1,548

¹ As measured by the index of industrial production of the Federal Reserve Board (1923-1925 = 100), which dropped from 118 to 76; the wholesale price index of the Bureau of Labor Statistics (1926 = 100), which declined from 95.1 to 71.2; and the Standard Statistics stock price index (421 stocks; 1926 = 100), which fell from 222.1 to 81.2.

As might have been expected, the brunt of the financial burden fell immediately upon the large New York City banks. In the preceding speculative era, particularly 1928 and 1929, loans to brokers by outside institutions had grown at an alarming pace until they represented about five-sixths of the total. As Table 23 indicates, these loans proved to be a highly volatile element. Between October 23 and October 30, loans made for the account of others (business corporations, investment trusts, individuals, etc.) were called in the amount of \$1,359,000,000; and loans made for the account of out-of-town banks were called to the extent of \$728,000,000. Security dumping on such a scale could not be absorbed and the New York City banks were forced to take over temporarily \$1,000,000,000 of these loans. Fortunately, a majority of the loans called by outside interests were not withdrawn but were placed on deposit with the New York banks, thus avoiding a great loss of reserves. The growth in deposits, however, increased reserve requirements which could be met only by additional use of Federal Reserve credit. This was supplied freely at this crucial point by additions to Reserve bank holdings of United States Government securities of over \$150,000,000 and by member-bank advances of about \$200,000,000.

As the table further indicates, large-scale liquidation of all three divisions of brokers' loans continued to the year end but with the largest volume applying to the outside institutions. The tension was greatly eased by the liberality of Federal Reserve policies. The rediscount rate at the New York bank was reduced from 6 to 5 per cent on November 1 and still further to $4\frac{1}{2}$ per cent on November 15. Substantial purchases of bills and securities permitted a reduction in member-bank borrowings in spite of the seasonal increase in currency and the loss of gold through export. Open-market rates in the money market responded to these policies by a steady decline. The average call-loan rate, for example, declined from 8.50 per cent in September to 4.83 per cent in December.

3. BANK FAILURES

Probably the most disturbing banking development of the period was the rapid acceleration of failures. To be sure, the country had become resigned to the failure epidemic in the previous decade, when on the average over 600 banks with nearly

\$200,000,000 of deposits suspended operations annually. These were for the most part small nonmember institutions located in the agricultural sections of the country. But in 1930 and 1931, the number of suspensions mounted to 1,345 and 2,298, respectively, and the deposits involved to \$865,000,000 and \$1,692,000,000. About 16 per cent of our banks closed their doors. Apart from the individual hardship involved, failures on such a scale necessarily exerted a strong deflationary influence and added to the growing lack of confidence in the whole financial structure. Whole communities were in some cases deprived of banking facilities; the purchasing power represented by the deposits, if not lost completely, was tied up pending liquidation; business failures were precipitated in numerous instances; fear and uneasiness for the future prompted many people not directly affected to curtail expenditures; and the increased hoarding of currency placed an added strain on the entire banking system.

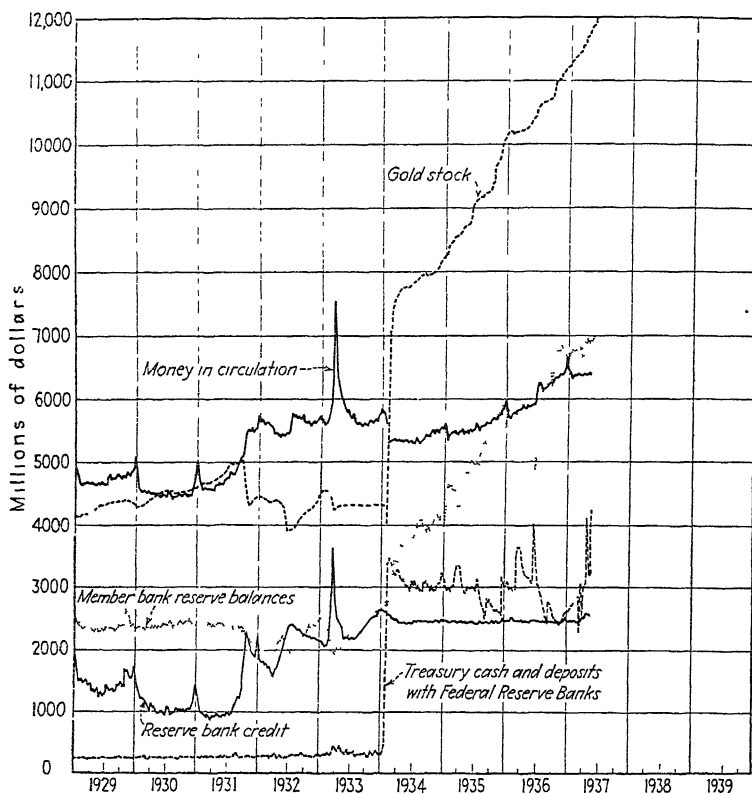
It is interesting to observe the close association between the number of failures and the hoarding of currency. As the weaker institutions failed, currency hoarding was accentuated. This, in turn, precipitated more failures. The first real evidence of hoarding appeared in November and December, 1930, when 598 suspensions were recorded. Among these were several sizable banks, the largest being the Bank of United States in New York City, which was closed on December 11. This was the largest failure in the history of the country. Some 400,000 depositors at 59 branches were involved, and total deposits exceeded \$160,000,000. As a result, in the week ended December 13, over \$170,000,000 of currency was drawn from the Federal Reserve Bank of New York, most of which failed to return. After a temporary lull between February and May, 1931, failures and hoarding again assumed very serious proportions in the second half of the year. To a large extent they were associated with the series of dramatic events in Europe—the collapse of the great Credit Anstalt in Austria on May 11, the closing of all banks in Germany in July, and the run on London during August and September which culminated in England's suspension of the gold standard.

4. GOLD MOVEMENTS

Early in January, 1930, the gold flow to the United States which had begun in February, 1929, was again resumed after the brief

interruption following the stock market crisis (see Chart 14). With minor exceptions, the inflow continued throughout the period and brought the country's stock of monetary gold to above \$5,000,000,000 by mid-September, 1931, the highest level on record.

CHART 14.—RESERVE BANK CREDIT AND RELATED ITEMS, 1929-1936



Through 1930 and the first half of 1931, the influx was chiefly from South America, Canada, and Japan. In general, it reflected the great pressure that the world depression brought upon the balance of payments of those debtor countries engaged largely in raw material production. Prices of their exports were declining faster than prices of their imports at a time when it was virtually

impossible to float a foreign loan. Shipments of gold or default on debt service thus became their only alternatives. After the middle of June, although gold imports continued from the same sources, by far the largest amount came from Germany as a result of the impairment of confidence in her financial position.

5. FEDERAL RESERVE CREDIT AND POLICIES

Occupying a key position in the money market, the Federal Reserve banks reflect in their operations and policies most of the significant banking developments. Their position is influenced by certain factors over which they have little control such as, *e.g.*, money in circulation. On the other hand, at times their arbitrary action in the form of open-market and discount policies dominates money-market conditions. It is, therefore, essential to observe the more important changes, during the period, in Federal Reserve credit. These changes, together with the factors responsible for them, are summarized in Table 24.

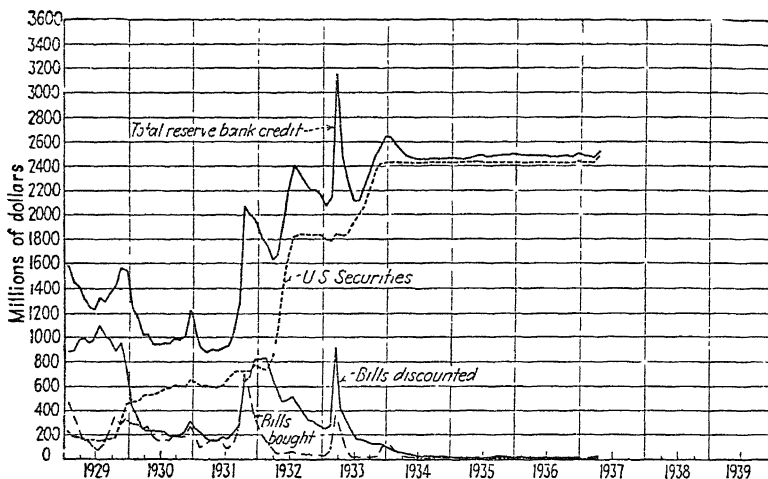
TABLE 24.—RESERVE BANK CREDIT AND FACTORS OF CHANGE ON SELECTED DATES
(In millions of dollars)

Reserve credit and related factors	Oct 23, 1929	Oct 29, 1930	May 27, 1931	Sept 16, 1931	Change between			
					Oct 23, '29 and Oct 29, '30	Oct 29, '30 and May 27, '31	May 27, '31 and Sept 16, '31	Oct. 23, '29 and Sept 16, '31
Bills discounted	796	202	153	263	-594	- 49	+110	-533
Bills bought	379	166	125	218	-213	- 41	+ 93	-161
U S securities	136	601	598	742	+465	- 3	+144	+606
Other reserve credit	63	16	10	56	- 47	- 6	+ 46	- 7
Total reserve credit	1,374	985	886	1,279	-389	- 99	+393	- 95
Factors of change:								
Monetary gold stock	4,386	4,533	4,795	5,016	+147	+262	+221	+630
Treasury currency adjusted	1,791	1,791	1,787	1,800		- 4	+ 13	+ 9
Money in circulation	4,752	4,426	4,634	5,088	-326	+208	+454	+336
Member-bank reserve balances	2,378	2,468	2,425	2,418	+ 90	- 43	- 7	+ 40
Unexpended capital funds, nonmember deposits, etc	421	415	409	589	- 6	- 6	+180	+168

SOURCE: Annual Reports of Federal Reserve Board

Between October 23, 1929, and October 29, 1930, all forces at work contributed to ease the market. Money in circulation declined \$326,000,000, the gold stock increased \$147,000,000, and the Reserve banks purchased \$465,000,000 of United States securities in the open market. These changes permitted member banks to repay borrowings of \$594,000,000, take up \$213,000,000 of acceptances, and increase reserve balances by \$90,000,000. Total reserve credit declined \$389,000,000.

CHART 15 — RESERVE BANK CREDIT, 1929–1936



From October 29, 1930, to May 27, 1931, bank failures caused the hoarding of currency, but the increase in circulation was more than offset by an accelerated inflow of gold. With the Reserve bank security portfolio maintained, member banks reduced their indebtedness further and added somewhat to their holdings of acceptances.

Between May 27, 1931, and September 16, 1931, the situation was dominated by serious banking difficulties in Austria, Germany, and England. While the flight of capital from Germany brought a substantial gold inflow, the spread of domestic distrust in banks far over-balanced its influence. Sharply increased currency withdrawals and the shift of deposits by nonmember banks to the Reserve banks made necessary the employment of

\$393,000,000 additional Reserve bank credit. But in spite of these, members were forced to borrow from and sell bills to the Reserve banks.

For the period as a whole, the gold inflow of \$630,000,000 exceeded the increase of circulation and the other factors making for additional use of Reserve credit so that the total was reduced by \$95,000,000. The large addition to the Reserve bank security portfolio—\$606,000,000—enabled members to pay off part of their indebtedness and to add appreciably to their acceptance holdings (see Chart 15). The extremely liberal credit policy of the Reserve banks during the period is also evident from the successive reductions in rediscount rates. By May 8, 1931, the rate at the New York Reserve Bank was reduced from 6 to $1\frac{1}{2}$ per cent—the lowest in the System's history.

Mainly under the influence of these liberal Reserve credit policies, the course of open-market rates was almost continuously downward. The average rate on call loans dropped from 8.62 per cent in September, 1929, to 1.50 per cent in September, 1931; the rate on prime commercial paper from $6\frac{1}{4}$ to 2 per cent; and the rate on prime bankers' acceptances from $5\frac{1}{8}$ to $\frac{7}{8}$ per cent.

6. MEMBER-BANK CREDIT

Although no great change in total member-bank credit occurred during the period, there were marked shifts in its character (see Chart 11, page 314). "All other loans" (largely commercial) were liquidated continuously as declining business activity reduced the credit needs of industry and trade. Loans on securities registered a temporary increase in the first half of 1930, when the banks took over a part of the brokers' loans of outside interests, and speculative enthusiasm experienced a brief revival. But subsequently their decline was even more rapid than that of commercial loans. As is typically the case in the earlier stages of depression, the reserves released by loan contraction were not left unemployed. Additions were made to the investment portfolio in a roughly equivalent amount through 1930 and the first quarter of 1931 so that total loans and investments remained at approximately the same level. But beginning in May, 1931, further currency withdrawals and the desire for greater liquidity led banks to reduce their holdings of "other bonds." This movement persisted throughout the remaining

months of the period and combined with further loan contraction to produce a sizable reduction in total earning assets.

Demand deposits-adjusted, which also maintained their level through the first half of 1931, showed a considerable decline beginning in June in response to the contraction of loans and investments and to currency hoarding (see Chart 7, page 252). But while the volume of deposits did not change greatly, there was a marked decline in the work that they performed. Between October, 1929, and September, 1931, the index of velocity of deposits dropped 65 per cent in New York City and 38 per cent in other cities.¹

II. THE SECOND PERIOD—SEPTEMBER, 1931, TO FEBRUARY, 1932

Reference has already been made to the succession of banking disturbances that swept over Austria, Germany, and England—striking each country in its turn with withering force. In the present section, we are chiefly concerned with the financial repercussions in the United States that followed England's suspension of gold payments. The period included the great "gold run" and the four subsequent months in which the government temporized before it launched a decisive program of financial relief.

1. ENGLAND LEAVES THE GOLD STANDARD

Considering the vulnerability of England's position in the spring and summer of 1931, it is not surprising that she was finally engulfed by the spreading breakdown of international credit. In the first place, the balance of payments had become increasingly unfavorable in the postwar years, owing to basic difficulties that beset the British economy. The return to the previous gold parity in 1925 required a painful downward adjustment of prices and costs in order to establish equilibrium with other countries. This adjustment proved to be quite impossible, mainly because of the powerful opposition of organized labor toward a reduction in money wages. British exports suffered, therefore, from relatively high costs of production which encouraged foreign competition. Moreover, many countries vigorously promoted the home production of England's chief exports, as, *e.g.*, textiles in India and Japan. Added to these under-

¹ Index of the Federal Reserve Bank of New York.

lying difficulties were certain more immediate weaknesses. Owing in part to the popularity of the gold-exchange standard, a huge volume of foreign short-term funds was lodged in the London money market in the form of bank balances and bill holdings. It was also well known that the heavy British commitments in Germany and Austria were frozen and that England's gold reserves were inadequate to withstand a severe drain.

With the closing of the German banks, the spotlight shifted to London. British banks were subjected to heavy foreign withdrawals. The Bank of England lost \$158,000,000 of gold in the last three weeks of July, about two-thirds of it going to France. But Great Britain chose to continue the fight. On August 1, the Bank of England obtained a credit of \$250,000,000 from the Bank of France and the Federal Reserve Bank of New York. Then, upon its exhaustion late in August, the British government arranged a \$400,000,000 credit with investment houses in the Paris and New York markets. The tide of withdrawals, however, proved to be irresistible and quickly exhausted the second credit. This forced the suspension of gold payments on September 21, 1931, after an almost continuous drain of approximately \$1,000,000,000. Sterling exchange dropped precipitately in the next four days, from \$4.85 to \$3.76. Before the end of the month, similar action was taken by those countries whose economy was most closely related to that of England—Norway, Sweden, Denmark, Ireland, India, Egypt, and British Malaya. This action crystallized what has since been known as the "sterling bloc," *i.e.*, those countries whose currencies, no longer tied to gold, have followed closely the fluctuations of sterling.

2. THE SCENE SHIFTS TO THE UNITED STATES

The general deterioration of the domestic banking situation during the summer, characterized by increases in failures and currency hoarding, has already been described. With the pound sterling driven from its gold anchor, the outside world then began to doubt the soundness of the dollar's position despite our \$5,000,000,000 of gold reserves. International financial relationships were nearing collapse. In the six-week period following England's suspension, over \$725,000,000 of gold was exported or earmarked for foreign account (see Chart 14, page 390). The movement had no precedent in all history. About three-fifths

of the amount was taken by France, the Bank of France having suddenly decided to convert its dollar exchange holdings. Central and private banks in the Netherlands, Belgium, and Switzerland were recipients of most of the remainder. To withstand such a vast external drain was an extraordinary feat, but this was not all that confronted the banking system. The domestic drain of currency, already serious, was enlarged to panic proportions. During the seven weeks following September 19, nearly \$450,000,000 of cash was drawn into circulation. This in turn generated a new wave of bank failures—305 in September, with \$234,000,000 of deposits; and 522 in October, with deposits of \$471,000,000.

Such a combined domestic and foreign attack on the banks could be met only by a sharply increased use of Federal Reserve credit, which expanded about \$1,000,000,000, half in rediscounts and half in bills. The member banks supplied the remainder by drawing down their reserve balances. As might be expected, rates in the money market tightened quickly in response to crisis conditions. The open-market rate on prime bankers' acceptances rose from $\frac{7}{8}$ per cent on September 19 to $3\frac{1}{4}$ per cent in the week ended October 17. The rediscount rate of the Federal Reserve Bank of New York was raised from $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent on October 9 and to $3\frac{1}{2}$ per cent on October 16. These higher rates prevailed throughout the remainder of the period.

By the end of October, foreign fears concerning the soundness of the dollar were allayed. We had stood the test by meeting all demands for gold promptly and without restrictions. Indeed, during November and December, a steady gold inflow, mostly from Japan, increased the stock by \$170,000,000. Domestic hoarding was also checked, the year-end increase in circulation being less than seasonal. The continued high level of bank suspensions, however, prevented the usual January return flow of currency.

3. BANK CREDIT LIQUIDATION

The tremendous pressure exerted on the banks by actual and threatened cash withdrawals is reflected in the heavy liquidation of credit that took place during the period. Total loans and investments shrank in the twenty-three weeks between Sep-

tember 30, 1931, and March 9, 1932, by almost 13 per cent (see Chart 11, page 314). Liquidation on such a scale was unprecedented. The liquidation of loans was no longer, as in the first period, offset by security purchases. Banks were forced to sacrifice their bonds in a declining market. This demoralized the market even further and brought bond prices to the lowest levels thus far recorded in the depression. At the same time, loan contraction placed increasing pressure upon the stock and commodity markets.

4. THE NATIONAL CREDIT CORPORATION

Early in October, in the midst of the gold panic, President Hoover called a bipartisan conference of congressional leaders and bankers for the purpose of formulating a program to deal with banking difficulties and to restore business confidence. The result was the formation, on October 13, 1931, of the National Credit Corporation, an agency designed to enable banks to borrow on the basis of assets not eligible for rediscount at the Federal Reserve banks. The plan was one of mutual self-help without the aid of Government credit.

The funds of the corporation were to be obtained by the issuance of gold notes which were authorized to the amount of \$1,000,000,000. Each bank was requested, though not forced, to subscribe to these notes to the extent of 2 per cent of its net demand and time deposits. Members of the New York Clearing House Association took the lead by pledging subscriptions of \$150,000,000. Subscribing banks organized themselves into local associations under the supervision of a director of the corporation in each Federal Reserve district. Each local association had its loan committee which passed upon loans to members before recommendation to the corporation which actually made the advance. A loan to an individual bank was secured not only by the borrower's note and adequate collateral but by the joint note of the local association. Obviously, it was not contemplated to support unsound situations from the pooled resources.

The destructive forces, however, had gained too much momentum to be governed by any such arrangement. Bank failures, though checked in November, continued unabated in December and January. As a matter of fact, only a small number of

loans were made by the corporation and only \$135,000,000 of subscriptions was called. At this stage, nothing was capable of preventing a complete shutdown of the country's banks save the vigorous support of Government credit, which was soon to be supplied.

III. THE THIRD PERIOD—FEBRUARY TO JULY, 1932

In contrast with the previous period, in which the Administration refused to recognize realities and kept waiting for "things to right themselves," this period may be characterized as one of aggressive Government action. It included the launching of the Reconstruction Finance Corporation, the passage of the Glass-Steagall Act, the huge security-buying program of the Federal Reserve banks, and the second "gold run" of the United States. It extended through July, which marked the beginning of a period of improved banking conditions.

1. THE RECONSTRUCTION FINANCE CORPORATION

The extension of Federal credit to support the banks and railroads took form in the establishment of the Reconstruction Finance Corporation by Congress on January 22, 1932. The capital of \$500,000,000 was subscribed by the Treasury and an additional \$1,500,000,000 might be raised by the sale of the corporation's obligations, fully guaranteed by the United States, to the Treasury or in the open market.¹

Loans were authorized to all classes of banks, including \$200,000,000 to closed banks for reorganization or liquidation; to railroads upon the approval of the Interstate Commerce Commission; and to farmers through a specific allocation of \$50,000,000 to the Secretary of Agriculture. All loans were to be "fully and adequately secured" and were to bear such rates of interest as the corporation might determine. With the exception of advances for agricultural purposes, the duration of advances was not to exceed three years, but renewals for an additional two years were permitted.

The management of the corporation was vested in a board of seven directors, three *ex officio*—the Secretary of the Treasury,

¹ Aggregate borrowing power of the corporation was subsequently increased by the Emergency Relief bill on July 21, 1932, to \$3,300,000,000, and to \$4,150,000,000 by the Act of January 20, 1934.

the Governor of the Federal Reserve Board, and the Farm Loan Commissioner—and four others appointed by the President, subject to approval by the Senate.

The organization was speedily perfected. Between February 2 and June 30, total loans of \$1,055,000,000 were authorized, of which \$643,000,000, or 61 per cent, went to 3,600 banks and trust companies. The bulk of the remainder was distributed as follows: railroads, \$214,000,000; joint-stock land banks, \$74,000,000; mortgage loan companies, \$63,000,000; and building loan associations, \$52,000,000.

Tangible improvement in the situation immediately became apparent. Bank failures were reduced from 342 in January to 46 in March and remained well under control until June, when difficulties flared up in Chicago. Likewise, a gradual return of currency to the banks set in during February and persisted through May. A perceptible change in the attitude of depositors developed as the belief grew that the Reconstruction Finance Corporation would not permit another wave of failures.

2. THE GLASS-STEAGALL BILL

The next step in the Government's program of easing credit conditions was the enactment on February 27, 1932, of the Glass-Steagall bill, which removed the shackles on the Reserve System's open-market policy. There were two important provisions. First, member banks that lacked eligible paper or securities were, under certain restrictions, enabled to borrow from the Federal Reserve banks on the basis of their other assets. Little use, however, was made of this privilege, owing mainly to the available facilities of the Reconstruction Finance Corporation. Second, and more important, Federal Reserve banks were authorized to use obligations of the United States as collateral for Federal Reserve notes. This provision requires further explanation.

According to the Federal Reserve Act, the Reserve banks were required to pledge 100 per cent collateral consisting of gold, gold certificates, or eligible commercial paper with the Federal Reserve agents for Federal Reserve notes issued to them. Just before the Glass-Steagall amendment, the amount of "issued" Federal Reserve notes was roughly \$2,900,000,000. and the

amount of eligible paper in the hands of Reserve banks was about \$900,000,000, leaving some \$2,000,000,000 of notes covered by gold. The "free gold" in the system was but slightly more than \$400,000,000 in spite of our huge gold stock. Under these circumstances, the Reserve banks were not in position to purchase many more United States securities either to ease the credit situation as a matter of policy, or to offset the effect of gold exports. This unnecessary and embarrassing situation was corrected by the amendment which immediately raised the System's "free gold" by the amount of its holdings of United States securities (\$740,000,000).

3. THE SECURITY-BUYING PROGRAM OF THE FEDERAL RESERVE SYSTEM

Armed with this new freedom in its open-market operations, the Reserve System immediately embarked upon the greatest central banking experiment in history. Over \$1,000,000,000 was added to holdings of United States Government securities between March and August, bringing the portfolio to the record level of \$1,851,000,000. Weekly purchases were some \$30,000,000 in the first six weeks but were stepped up in mid-April to over \$100,000,000 and remained relatively high through June.

The aim of the program was to stimulate business and prices by credit expansion fostered by abundant bank reserves and low money rates. Since member-bank reserve balances at the Reserve banks draw no interest, it was believed that excess reserves would soon be put to work through increased loans and purchases of securities. More liberal advances to business would be employed to hire labor, purchase materials, and stock inventories. Additions to security holdings would stimulate the bond market to the point that new issues could be absorbed in financing capital outlays.

As events unfolded, however, the period afforded no opportunity to give the theory a test. The second gold drain combined with further currency hoarding in June, absorbed about \$500,000,000 so that, after allowing for reduced rediscounts and increased acceptance holdings, the excess reserve balances of members were built up by only \$200,000,000. In spite of the

gold run, the effect was to produce increasing ease in the money market. The prevailing rate on prime bankers' acceptances dropped steadily from $2\frac{3}{4}$ per cent, at the time security purchases began, to $\frac{3}{4}$ per cent in July.

4. THE SECOND GOLD RUN

Beginning in March, a number of developments in this country combined to reawaken fears of foreign nations regarding the soundness of the dollar. The suicide of Ivar Kreuger early in March and the collapse of his financial empire precipitated a sharp decline in security prices and shook international confidence. Moreover, it began to appear that some form of serious inflation was a distinct probability. Congress showed no disposition to cope with the rapidly mounting Federal deficit, in the orthodox manner, by reducing expenditures and increasing revenues. Instead, the sales tax was defeated on March 24 and inflationary proposals held the center of the stage. Hearings on the Patman bill, which called for immediate cash payment of the soldiers' bonus by the issuance of \$2,000,000,000 of greenbacks, were in progress. The Goldsborough bill, directing the Federal Reserve System to conduct its operations with a view to restoration of the 1921-1929 level of prices, was passed by the House on May 2 by the overwhelming vote of 289 to 60. At the same time, the huge security-buying program of the Reserve banks was in progress and may have contributed to the growing alarm.

Whatever the cause, dollar exchange weakened. In mid-April, a gold outflow began which assumed panic proportions during the last half of May and the first half of June. Through those four panic weeks, the gold stock declined \$327,000,000. The total loss by the end of June, when the drain ceased, was about \$475,000,000—considerably less than the first "run" in the preceding autumn (see Chart 14, page 390). The bulk of it was taken by the central banks of France, the Netherlands, Switzerland, and Belgium. Strangely enough, not even the panic weeks produced a rise in money rates or an appreciable increase in rediscounts. This was, of course, due to the accompanying outpouring of reserve bank credit through the open-market channel.

5. OTHER SIGNIFICANT DEVELOPMENTS

Three other developments of the period should be mentioned. First, the contraction of member-bank credit continued at only a slightly diminished pace (see Chart 11, page 314). There was no check to loan liquidation but after mid-March a zigzag rise in holdings of United States securities occurred and the portfolio of other securities was maintained.

Secondly, on July 21, President Hoover signed the Emergency Relief bill which, among other things, extended the lending power of the Reconstruction Finance Corporation and added further to the powers of the Federal Reserve System. By increasing the borrowing power of the Reconstruction Finance Corporation from \$1,500,000,000 to \$3,300,000,000, in addition to its subscribed capital of \$500,000,000, adequate resources were made available to lend further substantial support to the banks and other financial institutions. This was reassuring. The amendment to the Federal Reserve Act permitted the Reserve banks to discount commercial paper for individuals, partnerships, and corporations under close restrictions. Such a loan might be made only if it were impossible to obtain adequate accommodation from other banks, and if the paper conformed to eligibility requirements. Actually, small use was made of this new authority; such loans amounted to but \$859,000 by the end of 1932.

Lastly, through the Glass rider to the Home Loan Bank bill (approved July 22), all bonds of the United States bearing interest not in excess of $3\frac{3}{8}$ per cent were made eligible as security for national bank notes for a period of three years. By this step, the amount of such bonds was increased from \$675,000,000 to \$3,763,000,000. The potential issuing power of national banks was not, however, increased by this amount. Note issue was already limited by statute to paid-in capital stock which at the time aggregated \$1,569,000,000. This exceeded outstanding national bank notes (652,000,000) by \$917,000,000. While this bill added somewhat to the margin of profit on issuance,¹ circulation increased only gradually. The effect of this expansion was not to increase the total amount of money in

¹ Formerly estimated at $\frac{1}{2}$ per cent per annum by the Comptroller of the Currency.

circulation but to replace other forms of currency, chiefly Federal Reserve notes. To this extent, the influence was to raise the gold reserve ratio of the Federal Reserve banks.

IV. THE FOURTH PERIOD—AUGUST, 1932, TO JANUARY, 1933

After the middle of July, 1932, a sudden reversal of business sentiment occurred. The gold drain had been met; the serious Chicago banking disturbances in June had been quieted by liberal support from the Reconstruction Finance Corporation; Congress had adjourned after enacting what was believed to be a reasonably workable program of legislation; and, although the Federal budget was not balanced, radical inflation proposals had been forestalled. Accordingly, the security markets initiated a vigorous upturn which carried into early September. Production and trade experienced a sizable autumn revival which was world wide in character and which was well maintained to the year end. Commodity prices also rose in the fall, and though the gain was erased in the last quarter, the steep decline appeared to be arrested.

TABLE 25—RESERVE BANK CREDIT AND PRINCIPAL FACTORS OF CHANGE
BETWEEN JULY 30, 1932, AND JANUARY 28, 1933
(*In millions of dollars*)

Reserve credit and related factors	July 30, 1932	January 28, 1933	Change
Reserve bank credit:			
Bills discounted.....	531	267	-264
Bills bought.....	44	31	- 13
U. S. securities.....	1,839	1,770	- 69
Total reserve bank credit ..	2,430	2,080	-350
Factors of change:			
Monetary gold stock ..	3,963	4,554	+591
Treasury currency adjusted ..	1,774	1,897	+123
Money in circulation	5,718	5,620	- 98
Member-bank reserve balances	2,057	2,487	+430

An analysis of the banking statistics of this period reveals tangible improvement in several important respects. First, attention is called to Table 25, which compares the position of Reserve Bank credit at the beginning and end of the period. The combined influence of substantial gold imports, an increase

in Treasury currency, and a decline in circulation was so favorable that member-bank reserve balances grew \$430,000,000 despite a reduction of \$350,000,000 in the amount of Reserve credit in use. The huge security portfolio had been maintained intact until the year end. These developments naturally created an even greater state of ease in the money market, as evidenced by a decline in the rate on open-market commercial paper from $2\frac{1}{2}$ to $1\frac{1}{4}$ per cent and a drop in the rate of bankers' acceptances from $\frac{3}{4}$ to $\frac{1}{4}$ per cent—both of which represented record low points up to that time.

Some improvement was also registered by member-bank statistics (see Chart 11, page 314). In contrast with previous stages of the depression, total loans and investments of member banks held at about the same level during the period. This was due, however, to a large increase in holdings of United States securities and not to an uptrend of loans. Though the rate of loan liquidation did slacken appreciably, it continued at the drastic annual rate of 17 per cent. Demand deposits—adjusted, under the combined influence of Federal borrowing, the gold inflow, and reduced currency circulation, actually registered a 3 per cent gain (see Chart 7, page 252). The contraction of time deposits was checked, and a small increase even took place. Excess reserve balances of member banks reached a record level in January of over \$580,000,000. In addition, the recovery in bond prices restored the solvency of many banks and eased the position of all.

The only seriously disconcerting facts at the time were the unfortunate decision to make public the bank loans of the Reconstruction Finance Corporation, the disquieting turn of the presidential campaign, and the rising number of bank suspensions during December and January. The publicity of Reconstruction Finance Corporation loans largely undermined whatever healing effects its large advances might have had. Depositors eagerly scanned the reports to find out whether, and how much, their banks were borrowing and began to shift funds to the stronger institutions. This created a new problem with which the Reconstruction Finance Corporation was powerless to cope in view of the legal requirement of "adequate security." Moreover, banks standing in dire need of assistance were fearful of accepting it lest a run be invited.

Whatever the cause, bank suspensions, which had been held in check after July, rose to 161 in December and 237 in January. This was most disturbing and foreshadowed the approaching disaster in February and March.

Looking back and weighing the evidence, one is forced to the conclusion that the collapse of the banks in March could have been avoided. The tangible improvement in business and the banking position during the second half of the year provided an adequate basis on which to rebuild confidence. But despite improvement, the banks remained in a highly vulnerable position. They could not withstand the undermining influence of the numerous unnecessary shocks to confidence. Probably, also, the Reconstruction Finance Corporation should have had authority to make capital subscriptions to the banks and more freedom to make strategic advances without the requirement of adequate security.

V. THE FIFTH PERIOD—FEBRUARY TO MID-MARCH, 1933

1. THE BANKS CLOSE

The evidences of impending disaster, which were apparent in January only by a rise in failures,¹ accumulated swiftly throughout February. A state-wide public holiday was declared in Louisiana on Saturday, February 4, ostensibly in commemoration of the severance of diplomatic relations with Germany by President Wilson sixteen years before. The public, however, was not deceived as to the real reason behind the proclamation. Nevertheless, the respite afforded the large Hibernia Trust Company time to arrange loans, and its doors were opened again Monday morning. Momentarily the situation had been saved.

On February 14, the whole country became tense when the Governor of Michigan proclaimed a banking moratorium until February 21 in view of the acute financial emergency existing in Detroit and throughout the state. This stroke of the pen tied up over \$1,500,000,000 of deposits in about 550 banks and left the state prostrate without banking facilities. The trouble began with a serious run on the Union Guardian Trust Company which was already borrowing heavily from the Reconstruction Finance Corporation. The whole situation was particularly

¹ Exceeded in number during six previous depression months.

threatening for two reasons. This institution was one unit of a large holding company group controlling 21 banks throughout Michigan with resources exceeding \$430,000,000. More fundamentally, banking in Detroit was an outstanding example of speculative excesses in urban real estate. When the moratorium expired, no solution had been found and the banks were permitted to open only on a rigidly restricted basis. New deposits had to be handled separately in special trust accounts, and withdrawals were confined to nominal amounts for necessity purposes.

The repercussions of the Michigan calamity were naturally widespread. Corporations in the Detroit industrial area drew on New York City, Chicago, Cleveland, and elsewhere for pay-roll requirements. These cities in turn withdrew funds from numerous other cities. Corporate treasurers the country over were shifting huge amounts by wire transfer from weak to strong banks. Public fear for the safety of deposits spread like wildfire, and the long queue of depositors seeking currency became a familiar sight. Under these circumstances, local and state officials in increasing numbers were forced to restrict the amount of withdrawals to a small proportion of the account.

From this point on, complete collapse was only a matter of days. Depositors were desperately bent on converting some \$16,000,000,000 of commercial deposits and \$24,000,000,000 of time deposits into hand-to-hand currency. On February 25, a banking holiday was proclaimed in Maryland. Other states followed in rapid succession until by Inauguration Day, Saturday, March 4, practically all banks in the country were officially closed. Early Monday morning, March 6, the first official act of President Roosevelt was a proclamation declaring a national emergency, suspending all banking operations for a period of four days, and prohibiting the hoarding or export of gold and silver. The holiday was subsequently extended and remained in force until March 13, when the so-called "sound" banks of the country began to be opened by successive stages.

{ A more concrete idea of what occurred during the crisis may be gained from Table 26 which shows the changes in position of the Federal Reserve banks between February 1 and March 8, 1933.

The active factors at work were the great increase of \$1,886,000,000 of money in circulation and the loss of gold in the amount

of \$305,000,000 through earmarking and export. Those drains were met by drawing heavily on reserve balances and by the use of \$1,574,000,000 additional Reserve bank credit. Since the Reserve banks released only \$117,000,000 to the market through purchases of United States securities, member banks were forced to secure the greater part (\$1,145,000,000) by rediscounting. The remainder was obtained by the sale of acceptances.

TABLE 26 — FEDERAL RESERVE CREDIT AND PRINCIPAL FACTORS OF CHANGE
BETWEEN FEBRUARY 1 AND MARCH 8, 1933
(In millions of dollars)

Reserve credit and related factors	Feb. 1, 1933	Mar. 8, 1933	Change
Federal reserve credit:			
Bills discounted	269	1,414	+1,145
Bills bought	31	417	+ 386
U. S. securities	1,764	1,881	+ 117
Total reserve bank credit	2,070	3,644	+1,574
Factors of change:			
Monetary gold stock	4,548	4,243	- 305
Money in circulation	5,652	7,538	+1,886
Member-bank reserve balances	2,438	1,776	- 662

SOURCE: *Federal Reserve Bulletin*.

Attention should also be called to certain other significant facts. As in past money panics, the destructive forces at work finally closed in on the large New York City banks. In preceding months, treasurers of the great corporations had weakened interior banks by shifting deposits to New York City. New York banks had also received some \$600,000,000 additional bankers' deposits in the six preceding months. During February, both of these movements were reversed. New York banks lost nearly \$1,400,000,000 of net demand deposits in the five weeks preceding the national holiday. In addition, they lost gold and deposits to foreign banks and were besieged by local depositors demanding currency. Meeting these requirements shifted the burden to the Federal Reserve Bank of New York which was compelled to obtain assistance from other reserve banks by rediscounting \$210,000,000 of commercial paper and selling part of its security holdings. Even so, when the final closing came, the New York Reserve Bank's reserve ratio was but 41.1 as

compared with 45.6 per cent for the entire System. All of these developments were quickly reflected in the level of money rates. The rate on prime commercial paper, which had been at $1\frac{1}{4}$ per cent in early February, opened after the holiday at $4\frac{1}{4}$ per cent; the call-loan rate rose from 1 to 5 per cent; and the rate on bankers' acceptances from $\frac{1}{4}$ to $3\frac{5}{8}$ per cent.

2. THE EMERGENCY BANKING ACT: THE BANKS OPEN

While the banks were closed, the Administration received a wide variety of counsel concerning the proper procedure to follow. All were agreed that the conditions established must be such that the public would have absolute confidence in the banks that were permitted to reopen; but broad differences of opinion existed regarding what those conditions should be. At one extreme was the group that advocated an unconditional Government guarantee of all deposits; at the other, the deflationary group which believed that only those banks capable of passing a rigid test of solvency should be opened. The President's program, which embodied in liberalized form the counsel of the second group, was made possible by the Emergency Banking Act, approved on March 9. The principal provisions of this act may be summarized as follows:

1. Extensive power was granted the President to regulate all operations of Federal Reserve member banks and all foreign exchange transactions and gold movements during the national emergency. In addition, the Secretary of the Treasury at his discretion might call in all gold bullion, gold coin, or gold certificates owned domestically.

2. At his discretion, the Comptroller of the Currency might place a national bank in the hands of a conservator—a specialized type of receiver—whose function was to conserve the assets in the interest of depositors and creditors of the bank. Under his direction, a bank might be liquidated, reorganized, or opened without reorganization.

3. Reorganization was facilitated by making a plan effective when approved by the Comptroller and depositors and other creditors representing 75 per cent of such liabilities or owners of two-thirds of outstanding capital stock. It was further facilitated by permitting national banks to issue cumulative preferred stock which might be sold to the public or to the Reconstruction Finance Corporation.

4. The Federal Reserve banks were authorized to issue emergency currency (Federal Reserve bank notes) on the security of direct obligations of the United States or commercial paper and bankers' acceptances

acquired under the provisions of the Federal Reserve Act. When backed by United States securities, note issue might be up to 100 per cent; but against other security, it was limited to 90 per cent. Such notes were redeemable in lawful money but not in gold.

5. The Federal Reserve banks were also authorized to make advances to member banks on the security of any acceptable assets; and by a subsequent amendment (March 23), this privilege was extended to nonmember banks during the emergency provided they complied with the requirements applying to member state banks.

In particular, it should be noticed that the Emergency Banking Act safeguarded the banks against a renewed public demand for currency by opening wide the doors of the Federal Reserve banks for advances in the form of currency or reserves. The new machinery made possible a wholesale conversion of deposits into currency should the public so desire.

In accordance with a publicly announced plan, sound banks were granted licenses in successive stages beginning Monday, March 13. On the first day, banks located in Federal Reserve bank cities were opened; on the next day, banks located in some 250 cities having an organized clearinghouse association were opened; and on the third day, banks located elsewhere were opened. There were, however, many instances of delay for a few days due to inadequate information and the tremendous amount of routine involved. By March 29, about 12,800 of the 18,000 banks operating before the holiday had licenses to operate on an unrestricted basis. Remaining closed or operating under restrictions were 3,900 nonmember banks, 1,141 national banks, and 166 state member banks. Between \$4,000,000,000 and \$5,000,000,000 of deposits were still tied up.

CHAPTER XXIII

BANKING DEVELOPMENTS SINCE THE BANK HOLIDAY

I. THE PERIOD OF RECONSTRUCTION AND EXPERIMENT

The period since the bank holiday of 1933 may well be characterized as one of financial reconstruction and experiment. It includes a number of highly significant developments among which are the following: our formal departure from the gold standard, the Thomas inflation measure, the Banking Act of 1933, the Securities Acts of 1933 and 1934, the Gold Reserve Act of 1934, the Silver Purchase Act of 1934, and the Banking Act of 1935. Some of these developments have been described in an earlier chapter;¹ the others are summarized in the sections that follow.

1. RETURNING CONFIDENCE IN THE BANKS

In line with expectations, a rapid return flow of currency set in immediately after opening the banks. When the public became convinced that the emergency arrangements would enable them to make a large-scale conversion of deposits into currency, they were no longer interested in doing so. By March 29, money in circulation dropped nearly \$1,200,000,000; and by July, it was back to the level of the previous year. This enabled member banks to repay their Federal Reserve borrowings and repurchase bankers' acceptances until total Reserve bank credit dropped by June to the amount of the previous year. Legal reserve balances were also speedily rebuilt. These favorable developments were quickly reflected in renewed ease in the money market, which has persisted to the present time (1937). Little immediate use was made of the new emer-

¹ See Chapter VII, pp. 94-102, for a discussion of our departure from gold, the Inflation Act, the Gold Reserve Act, and the Silver Purchase Act. It is suggested that the reader fit these into the present chapter at the proper points.

gency currency, although as a matter of policy the circulation of Federal Reserve bank notes was gradually expanded to a peak of \$209,000,000 at the end of 1933. Since then, however, they have been retired from circulation until the outstanding amount in January, 1937, was \$43,000,000.

2. THE BANKING ACT OF 1933

One phase of the Roosevelt reform program was concerned with banking in view of the numerous weaknesses brought to light by the collapse in March. The Banking Act of 1933, which was approved on June 16, constituted the most significant piece of banking legislation since the Federal Reserve Act of 1913. While passed under the great pressure of an emergency, it was really the outgrowth of extended Congressional hearings begun in 1930. Consequently, it did not show so many earmarks of haste as most of the measures rushed through the seventy-third Congress (special session). Its principal provisions were as follows:

a. Control of Speculative Credit

Large additional powers were granted to the Board of Governors over the extension of speculative credit. First, the Board was directed to keep itself informed concerning the undue use of credit for "speculative carrying of or trading in securities, real estate, or commodities," and the Federal Reserve banks were directed to give consideration to such information in granting or refusing credit accomodation. Second, the Board was authorized to fix for each Federal Reserve district "the percentage of individual bank capital and surplus which may be represented by loans secured by stock or bond collateral." Third, it was provided that 90-day advances by Reserve banks on promissory notes of members secured by eligible paper shall become due immediately if collateral loans be increased despite an official warning to the contrary. Fourth, the Board was authorized to suspend a member bank from the use of the credit facilities of the System when, disregarding official warnings, it persists in making undue speculative loans. Last, member banks were prohibited from acting as the agent for any nonbanking interest in making collateral loans to brokers or dealers in investment securities.

b. Deposit Insurance

A large part of the act was devoted to provision for the partial insurance of deposits through the Federal Deposit Insurance Corporation. Since most of this section, however, was changed before becoming effective, it will be better to consider the amended form in a subsequent section dealing with the Banking Act of 1935.

c. Separation of Investment and Commercial Banking

Another part of the act was designed to eliminate the abuses that grew out of bankers engaging in both investment and commercial operations. The remedy adopted was separation of the two types of banking. It was believed that the dual role of investing depositors' money and at the same time underwriting and selling securities provided a temptation for fraud. First, member banks were directed to sever all connections with their security affiliates by June 16, 1934. Second, investment and security houses were forbidden to engage in deposit banking unless they should drop their underwriting and security business, should publish detailed reports, and should submit to periodic examination. Third, no director, officer, or employee of a member bank was permitted to serve at the same time as a director, officer, or employee of any organization underwriting or dealing in investment securities except under permit issued by the Board. Fourth, member banks were prohibited from underwriting and dealing in investment securities¹ excepting the purchase of such securities for their own account under regulations prescribed by the Comptroller of the Currency.

d. Regulations of Holding Companies

Holding companies controlling member banks were subjected to much closer regulation. The Board was directed to grant permits to vote shares of bank stock controlled by such affiliates only under the following conditions:

¹ An exception was made of obligations of the United States, of a state or political subdivision thereof, of the Federal Home Loan Banks or Home Owners' Loan Corporation, and of securities issued under the Federal Farm Loan Act.

1. Submission to detailed examination of condition and of relationship to member banks.
2. Publication of individual and consolidated statements of condition.
3. Agreement to refrain from acquiring an interest in a securities company and to dispose of any such present interest within five years from the date of application for a voting permit.
4. Declaration of dividends only out of actual net earnings.
5. Maintenance, after June 16, 1938, of a reserve of 12 per cent of the par value of controlled bank stock, such reserve to be built up to 25 per cent from earnings unless the shareholders, individually and severally, assume the statutory liability for bank stock owned by the holding company.

In addition, the aggregate of loans to and investments in the securities of a single affiliate by a member bank was restricted to 10 per cent of capital and surplus, and such commitments to all of its affiliates were limited to 20 per cent of capital and surplus.

e. Branch Banking

The privilege of establishing state-wide branches in those states whose laws expressly permitted such operations to state banks was accorded to national banks with capital stock of not less than \$500,000.¹ The capital of a national bank with branches, however, was required to meet the aggregate minimum capital of an equal number of similarly located national banks, and the Comptroller's approval was required before opening a new branch.

f. Loan and Investment Control

Control over loan and investment policies of national and member banks was tightened at a number of points. The provisions restricting speculative loans, loans to affiliates, and the underwriting or dealing in investment securities have already been listed. In addition to these, certain further regulations were applied:

1. Member banks were forbidden to make further loans to their own executive officers.
2. The rate of interest applying to loans and discounts of national banks was limited to the rate set by state law (or to 7 per cent in the absence of a

¹ \$250,000 in states with population of less than 1,000,000 and with no city exceeding 100,000; \$100,000 in states with population of less than 500,000 and with no city exceeding 50,000.

state law), or to 1 per cent above the 90-day rediscount rate of the Federal Reserve bank of the district, whichever might be the higher.

3. The total amount of investment securities of one obligor which might be purchased by a member bank was limited to 10 per cent of the issue outstanding and to 15 per cent of the capital stock plus 25 per cent of the surplus of said member bank.¹

4. The total investment, direct or indirect, of a member bank in bank premises was limited in the future to its capital stock unless official approval be granted to exceed such limit.

g. Capital Regulations

Two changes were made in the capital regulations of national banks. First, the minimum capital requirement for a newly organized national bank was raised from \$25,000 to \$50,000. Second, shares of bank stock issued henceforth were not to be subject to the double liability feature.

h. Powers of the Board

The powers of the Board were extended in a number of directions in addition to its enlarged authority over speculative and investment credit. First, open-market operations of the System were brought more completely under the direction of the Board through the newly created Federal Open Market Committee. Second, all transactions and relationships between any Federal Reserve bank and foreign banks or bankers were brought under the supervision and regulation of the Board. Third, the Board was authorized to remove an officer or director of a member bank for violation of banking law or for engaging in unsound practices despite official warning. Fourth, the Board was directed to limit from time to time the rate of interest which member banks might pay on time deposits.² And last, the term of office of appointive members of the Board was extended from ten to twelve years.

¹ This provision was amended by the Banking Act of 1935 which sets the single restriction of 10 per cent of capital and surplus upon the investment in securities of one obligor.

² Regulation Q of the Board first set a maximum rate of 3 per cent effective November 1, 1933; on January 31, 1935, the rate was lowered to 2½ per cent; a still further change became effective January 1, 1936, when the maximum rate on time deposits of less than 90 days was fixed at 1 per cent, and the rate on such deposits of three to six months at 2 per cent. Savings deposits, postal savings deposits, and time deposits of six months or longer were left on the 2½ per cent basis.

i. Other Provisions

Three further provisions of the act were closely associated with the new plan of deposit insurance. First, member banks were prohibited from paying interest on demand deposits, and, as indicated above, the Board was directed to limit rates payable on time deposits. This promised to reduce expenses by over \$200,000,000 annually and to compensate for the burden of insurance. Second, the franchise tax applying to earnings of the Federal Reserve banks was repealed, which opened the way for the use of such earnings for insurance purposes. Third, admission of mutual savings banks and industrial loan banks to membership in the Federal Reserve System was authorized. This step was necessary in order that they be not excluded from the deposit insurance plan after July 1, 1937.

3. THE SECURITIES AND EXCHANGE COMMISSION

An outstanding achievement of the Roosevelt Administration was the extension of Federal regulation over the issuance and trading of investment securities. Before 1933, the investing public was protected only by inadequate state blue-sky laws, Federal prosecution for fraudulent use of the mails, and such damages as might be won in court action under the laws relating to fraud. The new regulatory machinery was established by the Securities Act of 1933 and the Securities Exchange Act of 1934.

The earlier measure is designed to furnish the investor with complete and reliable information concerning all new security issues. Twenty days before a new security may be offered to the public, a registration statement must be filed with the Securities and Exchange Commission.¹ This statement must contain audited reports of condition of the issuer; the purposes for which the funds are to be used; the names and addresses of directors, officers, and bankers; and the amount of the banker's fees. Heavy penalties are provided for misstatement or omission of material facts.

The Act of 1934 makes certain changes in the previous law and, in addition, extends Federal regulation to the field of

¹ Originally with the Federal Trade Commission.

security trading. Its principal provisions may be summarized as follows:

1. A new administrative body, the Securities and Exchange Commission, is created with broad supervisory powers over both new security issues and the security exchanges. It is composed of five members appointed by the President for a term of five years.

2. All security exchanges in the country are forced to register with the SEC, and to observe prescribed standards of practice. In addition, the exchanges, their members, and brokers dealing through members are made subject to examination and are required to preserve such accounts, reports, and other information as the SEC may prescribe.

3. Corporations listing their securities on a registered exchange are required to file balance sheets, earnings statements, and other information in accordance with regulations prescribed by the SEC. As a consequence of this provision, the investing public now has available a far greater amount of reliable information as a basis for appraising investment values.

4. Manipulation of security prices in contravention of SEC regulations is prohibited. Furthermore, the commission is granted power to regulate the activities of odd-lot dealers and specialists, floor trading by members for their own account, broker-dealer functions, and over-the-counter markets.

5. The Board of Governors of the Federal Reserve System is given authority over margin requirements with a view to preventing excessive speculation.¹ Also, in order to make the Board's regulations generally effective, brokers and dealers are prohibited from borrowing except from member banks, or from such nonmember banks as agree to comply with the regulations.

Assuming intelligent and alert administration, the country should enjoy substantial benefits from the constructive reforms embodied in the security acts of 1933 and 1934. Experience will doubtless lead to further improvements and refinements. But the new legislation represents the first comprehensive

¹ On April 1, 1936, this power was exercised when the maximum loan value of a security was reduced from 55 per cent, the basic standard named in the act, to 45 per cent of current market value. The latter percentage remains in effect at present (July, 1937).

Federal attack upon an important national problem that had previously been seriously neglected.

4. THE BANKING ACT OF 1935

The Banking Act of 1935 carried further the reform program begun in the act of 1933. Whereas the 1933 measure was chiefly concerned with the control of speculative credit, bank affiliates, deposit insurance, and the separation of investment and commercial banking, the keynote of the later law was the centralization of credit control powers in the hands of the Board of Governors in Washington. Other important changes were also made in the Federal Reserve Act and the National Bank Act. In as much as these provisions have been set forth at various points in the foregoing chapters, only an outline with references is included here.

a. Outline of Main Provisions

1. Federal deposit insurance (see Chapter XVI)
2. Provisions relating to credit control
 - a. Federal Open Market Committee (see p. 194)
 - b. Rediscount rates (see p. 203)
 - c. Member bank reserve requirements (see pp. 196-197)
 - d. Broadened lending powers of the Reserve banks (see p. 197)
3. Reorganization of the Federal Reserve Board (see p. 193)
4. Administrative changes at the Reserve banks (see p. 191)
5. Other provisions
 - a. Real-estate loans (see p. 323)
 - b. Computation of legal reserves (see p. 308)
 - c. Membership in the Reserve System (see p. 192)

b. A New Banking Philosophy

Under the original Federal Reserve Act, great emphasis was placed upon banking decentralization. Subject to certain reservations, each Reserve bank was to be responsible for its own policies and practices. A number of interior money markets, centering round each of the twelve Reserve banks, were visualized as eventually detracting from the dominant importance of the New York market. The Federal Reserve Board was thought of as a more or less passive *coordinating* agency, rather than a body actively dominating the major policies of the System.

In contrast, the Banking Act of 1935 recognized that the problem of credit control is national and international in scope,

and that full responsibility for the determination and enforcement of a national credit policy should be centered with the Board. With this aim in mind, the Board is given for the first time authority over all the main instruments of credit control—open-market operations, discount rates, legal reserve requirements, and the amount of speculative credit. Moreover, a complement to the heavier responsibilities of the Board is the effort to raise its caliber and prestige through longer terms of office, higher salaries, and greater freedom from political interference.

Another definite break with the underlying philosophy of the original act is the discard of the old criteria of a good bank asset. The expressed or implied theory permeating the original act was that the only legitimate type of commercial bank asset is the self-liquidating, working capital loan. Security loans, real-estate loans, and investments were regarded as evils that should either be prohibited or discouraged by every practicable means, since they represented a distinct departure from the ideal standard.

The new act displays a much more friendly attitude toward these former outlaws. This is particularly evidenced by the provision enabling the Reserve banks to lend upon the basis of any *acceptable* asset; and also by the liberalized section with respect to real-estate loans by member banks. In part, these provisions may simply represent practical concessions to an existing condition—the fact that commercial loans are but about one-fourth of the earning assets of member banks. But they also reflect a changed viewpoint regarding the tests of good bank assets.

No longer is the so-called self-liquidating commercial loan held up as the ideal standard. The new test is not so much whether the commitments are for a long or a short term as whether the loans are sound or unsound; not so much whether all loans are *commercial* as whether the volume of bank assets gives rise to a proper amount of circulating deposits, and whether the amount of speculative loans is excessive. Thus, according to the new philosophy no stigma attaches to long-term bank loans and investments as such. The main concern is over their *quality* and over their total *volume* as it bears on the quantity of circulating deposits and the price system.

5. RESERVE BANK CREDIT AND POLICY

The credit policy of the Board of Governors since March, 1933, has been designed to promote business recovery by creating artificially low money rates. Two instruments of control have been employed with this end in view: (1) further increase of United States security holdings; and (2) lowering of rediscount rates. During 1936 and 1937, however, the new power to raise reserve requirements has been fully utilized in order to check the volume of excess bank reserves.

a. The Increase of United States Security Holdings

Shortly after the reopening of the banks, the Reserve banks again increased their holdings of United States securities. By the end of 1933 the portfolio reached the record level of about \$2,430,000,000, where it has been maintained until the present time (March, 1937). This step, along with the return flow of currency, permitted member banks to repay the bulk of their Reserve bank indebtedness and to build up excess reserves of nearly \$800,000,000 by the end of 1933 (see Chart 14, page 390). As a consequence, the rate on four to six months' commercial paper dropped from $4\frac{1}{2}$ to $1\frac{1}{4}$ per cent, and the average rate on call loans declined from 3.32 to .94 per cent.

b. Lower Discount Rates

The discount rate of the Federal Reserve Bank of New York was lowered by four successive steps from $3\frac{1}{2}$ per cent in March, 1933, to $1\frac{1}{2}$ per cent in February, 1934, where it still remains in July, 1937. Likewise, the Reserve bank buying rate on bankers' acceptances was reduced from $3\frac{1}{2}$ per cent in March to $\frac{1}{2}$ of 1 per cent by October. No change has since been made.

It should be mentioned, however, that the foregoing rate changes of the Reserve banks followed rather than led the money market. Bank reserves were so abundant that only a nominal amount of borrowing was necessary. For the same reason, open-market rates on bankers' acceptances were below the official buying rate, so that only a few bills were offered to the Reserve banks.

c. The Increase of Member Bank Reserve Requirements

While the Board's policy remains one of easy money, it has wisely raised member bank reserve requirements by the full amount permitted by law in order to reduce excess reserves to a manageable level. Chiefly under the influence of the vast gold influx, excess reserves rose above \$3,000,000,000 in November, 1935. The first offsetting step became effective August 15, 1936, when reserve requirements were increased 50 per cent. This absorbed about \$1,500,000,000, but an excess of \$1,800,000,000 remained.

The final step was taken at the end of January, 1937, when the Board announced a further increase of $33\frac{1}{3}$ per cent that became fully effective on May 1, 1937. This took up about \$1,500,000,000 of excess reserves, but even so the surplus still exceeds \$900,000,000 at midyear 1937. The move was a wise one for at least three reasons. First, it was announced at a time when no shock to the money market was probable. If such an increase had been postponed until after a substantial further expansion of credit, it is most likely that the danger of disturbance to business recovery would have partly or entirely precluded the use of this method. Second, the step removes an element of business and financial uncertainty. Those who previously feared extreme inflation have less basis for concern; and, conversely, those who feared the overhanging threat of the Board's action are doubtless relieved. Last, the Board is now in position to exert effective control of the money market through open-market operations of the Reserve banks and discount rate changes.

6. COMMERCIAL BANK CHANGES

a. Member Bank Credit

A steady expansion of the total loans and investments of member banks has occurred since the reopening of the banks in March, 1933. Until midyear 1935, however, the increase came about solely as a result of enlarged holdings of investments, mainly United States securities. Since then, the upturn of commercial loans, which was substantial during 1936, has also contributed; but the amount of security loans still remains in the vicinity of its depression low point (see Chart 11, page 314).

Principally under the influence of expanding bank assets, demand deposits-adjusted have likewise shown a steady growth since 1933. In fact, their amount in July, 1937, considerably exceeded the volume reported before the depression. Time deposits have also increased but as yet are over \$2,000,000,000 short of the predepression high point (see Chart 7, page 252).

b. Aid from the RFC

The banks have been the leading beneficiaries of the emergency support of the Reconstruction Finance Corporation. Between February 2, 1932, and the end of 1936, the RFC made loans to banks of nearly \$2,000,000,000, of which about 90 per cent had been repaid. In addition, disbursements for preferred stock, capital notes, and debentures of 6,091 banks amounted to \$1,051,000,000. Of this sum, \$403,000,000 had been repaid. Thus, at the end of 1936, the RFC still owned bank loans of almost \$200,000,000 and bank stock, notes, and debentures of about \$650,000,000.¹

Owing principally to this liberal Government support combined with the drastic house cleaning of 1933, bank failures have recently been relatively few. During 1934, 57 failures involving \$36,900,000 of deposits occurred; all but 1 of these were nonmember institutions. In 1935, 34 failures representing \$10,000,000 of deposits were reported; of these, all but 4 were nonmembers. The number of failures was even less during 1936. No national banks were suspended, and fewer state banks were closed.

c. Extension of Branch Banking

Considerable progress has been made in the last few years in extending the field for branch banking. A summary of the status of branch banking laws in the several states is presented in Table 27. Since May, 1932, nine states have passed laws permitting state-wide branch banking.² This is especially significant in view of the fact that national banks are permitted to establish branches only in those states whose laws expressly grant the privilege to state banks. Under this stimulus, the number of branches of national banks increased from 1,121

¹ Figures taken from reports of the RFC.

² Connecticut, Idaho, Maine, Michigan, Nevada, Oregon, South Dakota, Utah, and Washington.

TABLE 27.—SUMMARY OF STATE BRANCH BANKING LAWS AS OF JUNE 1, 1936

States permitting state-wide branch banking	States permitting branch banking within limited areas	States prohibiting branch banking	States with no legislation regarding branch banking
Arizona	Alabama†	Colorado	Kentucky‡
California	Arkansas	Florida	New Hampshire
District of Columbia*	Georgia	Kansas	Oklahoma
Idaho	Indiana	Minnesota	Wyoming
Maine	Iowa†	Missouri	
Maryland	Louisiana	Nebraska	
Michigan	Massachusetts	Texas	
Nevada	Mississippi	West Virginia	
North Carolina	Montana		
Oregon	New Jersey		
Rhode Island	New Mexico†		
South Carolina	New York		
South Dakota	Ohio		
Utah	Pennsylvania		
Vermont	Tennessee		
Virginia	Wisconsin†		
Washington			
Total, 18	Total, 17	Total, 9	Total, 5

SOURCE *Federal Reserve Bulletin*, November, 1936, p. 858

* District of Columbia not included in tabulations published in *Federal Reserve Bulletin* for April, 1930, and July, 1932.

† Only "offices," "agencies," or "stations" for limited purposes, as distinguished from "branches," permitted under certain circumstances

‡ Court decisions permit establishment of offices or agencies to receive deposits and cash checks.

to 1,327 in the two years ended December 31, 1935. In the same period, branches of all commercial banks increased from 2,752 to 3,099. Assuming proper regulation, this movement promises to contribute materially to the strength of the banking system.

d. The Unifying Influence of the FDIC

In addition to its service of insuring small deposit accounts, the Federal Deposit Insurance Corporation is capable of, and apparently is, exerting a strong, unifying influence in the banking system. In doing so, it is striking in a practical way at one of the system's most serious weaknesses, *i.e.*, the fact that there

are 49 separate sets of banking laws and as many separate administrative departments in the country. Competition between the national and state regulatory systems has unfortunately been an undermining rather than an uplifting influence on banking standards. The states, in general, have tried to preserve and build up the number of state-chartered banks at the expense of the national system by holding out less onerous restrictions. This in turn has forced a relaxation of national banking laws and administration.

The political obstacles in the way of requiring national charters for all banks are so great that there is little hope of an immediate remedy for the situation in this direct manner. Much can be done by the FDIC, however, in extending uniform banking standards to nonmember state banks. At midyear 1936 there were 7,659 such institutions with deposits of \$5,920,000,000 that were subject to FDIC supervision. The corporation may refuse to admit to Federal insurance banks that do not measure up to its standards. It may also expel insured banks that persist in unsound practices. With respect to insured banks, the corporation may insist upon uniform supervisory policy and procedure. For example, nonmember insured banks are required to observe the same regulations concerning the payment of interest on deposits as member banks of the Federal Reserve System. Furthermore, Federal insurance of deposits may eventually be the means of forcing practically all banks to join the Federal Reserve System. The Banking Act of 1935 denies insurance after July 1, 1942, to banks with average deposits of \$1,000,000 or more unless they are members of the Reserve System.

e. Bank Earnings

The net profits of member banks, which amounted to \$556,514,000 in 1929, were transformed into heavy losses during the depression—\$254,887,000 in 1932, \$335,830,000 in 1933, and \$224,501,000 in 1934. These losses were partly the result of a decline in earnings from current operations, but were chiefly brought about by losses suffered on loans and investments. In 1935, however, the charge upon earnings from this source was greatly reduced, so that the banks were able to show net profits once again—to the amount of \$211,878,000. A substantial further gain in profits occurred during 1936. This restoration

of the banks to a profitable basis, combined with the drastic write-offs of doubtful assets and their status of extreme liquidity, places them in excellent position to finance the recovery of business.

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CHAPTER XXIV

TRUST COMPANIES

The preceding chapters were devoted to a consideration of the functions of the commercial bank and a discussion of the commercial banking system in operation in the United States. This and the following two chapters deal with noncommercial banks which have as their chief function either the conservation of wealth or the accumulation and transfer of fixed capital. Trust companies as such are important financial institutions for conserving wealth.

I. THE NATURE OF TRUST COMPANIES

Before explaining the operations of trust companies it may be well to explain their nature. "Trust companies as such" refers to financial institutions performing fiduciary operations. As a matter of fact, trust companies perform so many financial services that they have come to be called "department stores of finance." This means that they supply their clients with all forms of financial services, just as a department store supplies the demand for all sorts of commodities. For example, a trust company frequently has a commercial banking department, a savings department, a bond department or investment department, and a safe-deposit department. The Guaranty Trust Company of New York and the Old Colony Trust Company of Boston are examples of trust companies having these various departments.

However, it is the trust business which is the central thing for trust companies. Fiduciary services constitute their specialty and it is with this that we are here principally concerned.

Trust companies are to be distinguished from the "trusts" which characterized our economic history from about 1887 to 1905. These trusts were usually aggregations of hitherto competing business units formed to secure a monopoly. The legal form for this monopoly was a trust agreement; and since that time the monopoly problem has frequently been called the trust

problem, even though the trust form of organization in monopoly has for the most part gone by the boards. Trust companies are not synonymous with trusts.

The thread running through all trust-company functions is to be found in the legal idea of a trust—an idea which has been prevalent in English common law for a long time. A trust is created in law when A leaves property to B to be administered by C for the benefit of B. In law, A is known as the creator of the trust, B is the beneficiary for whom the trust is administered, and C is the trustee. The agreement which creates the trust may be a trust agreement or a will; and the estate to be managed is known as the *corpus* of the trust.

These are all the parties and factors in every trust, no matter by whom it is created, for whom it is created, or by whom it is managed. Certain legal obligations are laid upon C in connection with the administration of the trust. He is not allowed to administer it to benefit himself. He is expected to use reasonable care in administering it. He must abide by the terms of the trust, or the beneficiaries have an action in law against him. The trust, as a matter of fact, is looked upon as being one of the most sacred and binding of legal obligations.

The work of the trust company is that of the trustee, the one who administers the trust for the benefit of others. Whether the trust company acts as an administrator of an estate, a trustee under a corporate mortgage, or the guardian of an estate makes no difference; in each case it is acting as the trustee. This point is important because it may be lost sight of in the great number of fiduciary operations performed by trust companies.

II. THE FUNCTION OF TRUST COMPANIES

The economic function of trust companies is to conserve wealth for individuals and society. An example will show how this function is performed. Let us assume that John Smith, Sr., dies, and wills his entire estate, consisting of a going business valued at \$1,000,000, to his son, John Smith Jr., eighteen years old at the time of his father's death. The young man, not having arrived at the age of discretion and being fond of a gay life, proceeds to spend his patrimony in various ways. He neglects the business. He spends what income the business produces and gradually spends the principal. Within five

years the young man has "gone through" the estate. He has spent for consumption goods the entire fortune which his father accumulated during his entire life. The harm that comes to John Smith, Jr., is as nothing compared with the damage done to society. The wealth of the country has been diminished by that much. The hard toil and business sagacity of the father have gone for naught. Society is worse off as a result.

To make the picture complete, let us assume that the father had left the estate in trust for his son and that the son was to receive the income and the principal when he arrived at the age of discretion. One of the very wealthy men of the United States set this age for his own son at thirty-five years. By the time a young man has reached that age he has most likely settled down and acquired enough judgment to manage an estate intelligently. Instead of spending the principal, he will probably add to it. By the time he dies he may have considerably increased the value of the business. In this way the wealth of the country has been conserved and increased, not diminished.

It is much the same with most fiduciary operations. Whether it happens that the court appoints a trust company to administer the estate of one who is *non compos mentis*, or a man directs that the income from his securities be paid by a trust company to his wife to prevent her from spending the principal in wildcat oil stock, or a trust company enjoins a railway corporation from paying dividends on its common stock because it has not made proper charge for depreciation makes little or no difference; in all these cases it is conserving wealth.

III. ADVANTAGES OF TRUST COMPANIES AS TRUSTEES

The large growth of trust company resources provides one measure of their expanding usefulness to the community. Between 1914 and 1935 the total assets of such companies increased from \$5,490,000,000 to \$13,474,000,000. Owing, however, to the greater concentration of banking and the heavy failures during the recent depression, their number declined from 1,564 to 1,007.¹

The reason for the growth of these trust companies may be grouped under three heads, as follows:

¹ Figures from annual reports of the Comptroller of the Currency.

1. The trust company is better qualified to perform fiduciary services than the individual.
2. The trust company ordinarily has a higher degree of responsibility than the individual trustee.
3. The fees charged by trust companies are in general lower than those charged by individual trustees.

The trust company is better qualified to perform these fiduciary services than the individual trustee because the performance of such services is highly technical and complex, requiring the work of experts. The various tax laws, questions of legal procedure, problems of investments, and the like demand the work of men who have given their lives to such questions. When Henry Jones dies and appoints his friend Richard Leffler as executor and administrator of his estate, he probably has no idea of the burden he has thrust upon the shoulders of his friend. Richard Leffler may be a good merchant, but he has in all probability had no experience in acting as executor and administrator of estates. He is at sea without a compass or a rudder. Hence he will find it very difficult to manage the estate and his business at the same time. One of the two must suffer. It is most likely to be the estate and not Richard Leffler's business.

Again, the individual trustee may die, move away, or refuse to take charge of the estate. In such cases the court appoints another trustee. This involves legal procedure which is both troublesome and expensive. Trust companies, on the contrary, seldom die, do not move away, and always assume the responsibilities thrust upon them.

Trust companies usually have a higher degree of responsibility than individual trustees. Individual trustees sometimes use their power for selfish ends. The referee in the case growing out of the Jay Gould estate, according to the report of a reliable newspaper, held that four of the trustees were liable for losses estimated at \$50,000,000; and that these four trustees' use of the trust fund was "tainted with self-interest." True it is that when individual trustees violate the provisions of a trust they may be sued, but by the time this has been done the corpus of the estate has frequently been squandered. As contrasted with individual trustees, the trust company cannot afford to deviate one jot from the trust deed, because such a procedure would destroy its reputation. Moreover, trust companies are obliged to give

bonds to protect the beneficiary of the estate, their assets are carefully segregated from other assets, and their investments are as a rule regulated by state law.

Generally the fees of trust companies are lower than those of individual trustees. Competition between trust companies is keen, with the result that the fees which they charge are usually not exorbitant.

IV. SERVICES PERFORMED BY TRUST COMPANIES

For purposes of discussion the work of the trust company may well be divided into two groups: first, fiduciary services performed for individuals; and, second, fiduciary services performed for business corporations.

1. FIDUCIARY SERVICES FOR INDIVIDUALS

An executor of an estate is one named in the will of the decedent and ratified by a court, while an administrator is one appointed by a court. Many individuals die without leaving a will, or the person named as executor in the will may be dead or may not wish to serve. Under such conditions the court appoints an administrator of the estate. Both executors and administrators must go through a complicated legal procedure to settle estates. The amount of work to be done varies with the size of the estate, the law of the state, and various other factors. In the case of the Frick estate, for example, the executors were compelled to institute a suit arising out of the interpretation of the Federal tax law on the estate of decedents. The executors did not get a final decision on this matter until almost six years after the death of Mr. Frick.

It may be well to show the procedure which an executor must go through in New York to settle an estate.¹

1. File original will with the probate court for probate; obtain certified copies and authority for the executor to act.
2. Take possession of personal property and transfer all cash balances; arrange with representative of state tax commission for examination of contents of safe-deposit boxes and release of the contents.
3. Collect life-insurance policies payable to the estate, collect all rent, interest, and dividends as same become due.

¹ This is taken from an advertisement of the Bankers Trust Company of New York appearing in *The New York Times* of December 9, 1924.

4. Arrange for formal appraisal of the real and personal property for accounting and inheritance tax.

5. Make a preliminary review of decedent's investments and take such action as market conditions and terms of will and condition of estate require, and thus avoid possible loss to the estate.

6. Keep proper records of all cash and security transactions in proper books of account.

7. Arrange for the publication of notice to creditors.

8. Deposit with New York tax authorities initial payment to cover inheritance tax, thus taking advantage of 5 per cent discount granted by law.

9. Prepare Federal and state income tax returns in behalf of the decedent and of the estate during administration. Examine tax records for personal and real property tax assessments and arrange for revision of amount of assessment if excessive.

10. Institute inheritance tax proceedings; procure from the various tax authorities consents to the transfer of registered securities.

11. Make a careful review of estate assets and dispose of all speculative securities that have no place in an estate or trust fund.

12. Arrange for the distribution of property specifically bequeathed, the payment of cash legacies and the establishment of trust funds, and the payment of income at regular intervals to the relatives and friends entitled to the income.

13. Prepare Federal estate tax return and pay the amount of tax; arrange for review of return.

14. Prepare executor's court accounting; procure decree discharging executors and directing distribution of the assets remaining on hand.

But the trust company may also be called upon to act as administrator of an estate. Here, too, the amount of work to be done varies with the size and disposition of the estate, as well as with several other factors. The late Mr. Jacob Schiff left an estate of about \$34,000,000; much of it was to be administered by a trust company. The work of the trust company in managing such an estate or part of it is enormous. Securities must be attended to. Real estate may have to be sold or rented. Payments to the beneficiaries must be made. Indeed, in administering large estates a trust company may be called upon to do almost everything from paying various taxes to settling family quarrels.

Trust companies may also manage estates under the provisions of a living trust. Typical of such work is that of paying the income of an estate to a son in college or to a wife for whose benefit the husband has set up a trust fund. Such trusts may be revocable or irrevocable. Then there are insurance trusts

and community trusts and various other types, all of which have been developed in recent years in response to an urgent demand.

2. FIDUCIARY SERVICES FOR CORPORATIONS

The work which trust companies perform for corporations may be grouped under the following heads:

1. Transfer agent
2. Registrar
3. Fiscal agent
4. Trustee under mortgage indenture
5. Depository during reorganizations

a. Transfer Agent

Every business corporation has outstanding securities—stocks and/or bonds. Frequently the ownership of these securities, but especially of shares of stock, changes hands. How is the corporation to know who owns the stock as of a given date when the dividends are payable? This knowledge is supplied by the trust company when it acts as a transfer agent. When shares of stock are sold, the stock certificate is sent in to the transfer agent, who transfers the stock from the previous owner to the new owner. The old stock is canceled and a new stock certificate is issued. For this the transfer agent has a stock certificate book. The number of shares is written on each new stock certificate, the certificates are then numbered, stamped, and signed, and the seal of the corporation is affixed to them. The transfer agent then furnishes the corporation with a list of the stockholders as of a certain date, say June 15, and the corporation then sends the dividend checks to the stockholders of record on that date. In some instances the corporation acts as its own transfer clerk, although the modern tendency is to place this work in the hands of a trust company.

b Registrar

The new stock certificate must be registered. After the transfer agent has issued the new certificate, it is sent together with the old certificate to the registrar. The registrar examines the old stock certificate to see if it is genuine. For this purpose a complete list of the outstanding stock is furnished to the registrar,

who compares the number of shares represented by the new certificates with the number represented by the old. If there is no mistake, the registrar then signs the registrar's certificate and sends all the certificates back to the transfer agent. The registrar thus acts as a check upon the transfer agent. This custom was started by the New York Stock Exchange in 1869, after stock of various companies had been fraudulently overissued.

The stock transferred is generally bought on the New York Stock Exchange. The rules of the Exchange state that a corporation whose stock is listed must have a transfer agent and a registrar in the Borough of Manhattan. Moreover, the same trust company cannot act as registrar and transfer agent for the same corporation. A particular trust company, as for example the Bankers Trust Company, may act as transfer agent for the United States Steel Corporation and as registrar for the General Motors Corporation, but it cannot be both transfer agent and registrar for either corporation. Were this permitted, the value of the check of the registrar upon the work of the transfer agent would be nullified.

c. Fiscal Agent

When a trust company acts as fiscal agent for a corporation it may do much or it may do little. Its work may be confined to paying interest on bonds, or it may do almost all the financial work ordinarily done by the treasurer of the corporation.

d. Trustee under Mortgage Indenture

The most important fiduciary function performed by trust companies for business corporations is to act as trustee under the terms of a corporate mortgage. In such instances the business corporation mortgages certain property to the trust company which is the trustee. With this mortgage as collateral, bonds are issued and sold to investors. In doing this work the trust company is expected to safeguard the interests of the bondholders so that the wealth which has been mortgaged will not decline to such an extent as to endanger the bondholders' equity.

An example will show the significance of this function both from the point of view of the bondholders and of society. Let us assume that the New England Automobile Corporation, being in need of money to expand, places a mortgage upon its

real estate for \$1,000,000. Against this mortgage the corporation issues 6 per cent bonds due in 1945. It may well happen that, before the bond issue falls due, the directors of the corporation owning most of the stock in the corporation may so "doctor" the depreciation account of the corporation that interest is paid on the bonds and very heavy dividends on the common stock. This policy may be continued for some years. In effect, it amounts to paying earnings out of capital. Before the bonds mature, the assets of the corporation may be so wasted that there is little or nothing left for the bondholders. Of course, the bondholders lose. But in addition to that, the wealth of the country has in all probability been diminished, because the property has not been maintained and the dividends have probably been spent for consumption goods. To prevent that sort of thing, the trust companies usually state specifically what allowance is to be made for depreciation before any dividends are paid on the preferred or common stock. This depreciation policy maintains the business and makes possible the paying of the bonds when they fall due.

e. Reorganizations

Business corporations frequently go through reorganizations. When a reorganization takes place, it is necessary that a committee look after the interests of particular security holders. The committee, if it is to have any standing in court, must be given control of the various securities. This control is secured by having security holders send their securities in to trust companies, which act as depositories during a reorganization. The security holders then get trustee receipts, which are just as negotiable as the actual securities. The committee then proceeds to act for the benefit of the security holders.

The reorganization of the Chicago, Milwaukee and St. Paul Railway Company illustrates the work of the trust company as a depository during a reorganization. There were three committees—the bondholders' protective committee, the preferred stockholders' protective committee, and the common stockholders' protective committee. Each one of these committees selected a trust company or trust companies to act as a depository, and the various security holders were asked to send in their securities to these trust companies. This procedure makes it

possible for the committees to control the stock or bonds and to work out a reorganization plan.

V. FIDUCIARY POWERS OF NATIONAL BANKS

National banks were not permitted to perform fiduciary operations prior to the passage of the Federal Reserve Act. Their inability to engage in this kind of work naturally directed trust business to state banks and trust companies, thereby depriving the national banks of a source of profit. Some of the national banks in effect circumvented this lack of power by organizing trust companies under state laws and then selling the stock to their own stockholders. The directors of such trust companies were frequently the directors of the affiliated national banks. However, the expenses of taking out a separate charter and the examination of the trust company by a separate examiner prevented the spread of this practice.

The Federal Reserve Act gives national banks permissive power to engage in fiduciary operations. The important part of Section 11 *k* of the Federal Reserve Act allowing national banks to perform these operations is as follows:

The Board of Governors of the Federal Reserve System shall be authorized and empowered: To grant by special permit to national banks applying therefor, when not in contravention of state or local law, the right to act as trustee, executor, administrator, registrar of stocks and bonds, guardian of estates, assignee, receiver, committee of estates of lunatics, or in any other fiduciary capacity in which state banks, trust companies, or other corporations which come into competition with national banks are permitted to act under the laws of the state in which the national bank is located.

Whenever the laws of such state authorize or permit the exercise of any or all of the foregoing powers by state banks, trust companies, or other corporations which so compete with national banks, the granting to and the exercise of such powers by national banks shall not be deemed to be in contravention of state or local law within the meaning of this act.

The granting of this power to national banks would, so it was thought at the time, tend to strengthen the Federal Reserve System by adding to its membership in two ways: first, it would keep many of the national banks from converting into state banks, which were not compelled by law to join the System; and,

second, it would make membership in the national banking system for state banks and new banks more attractive by adding to the profit-making possibilities of national banks. The necessity of strengthening the Federal Reserve System was important, because at the time the act was passed many bankers opposed it, some national banks were threatening to leave the national banking system, and there was a general feeling of suspicion toward this banking experiment.

A national bank desiring to engage in any or all of these types of fiduciary operations applies to the Board of Governors for the necessary power. If the power is granted, the bank is compelled to observe certain stipulations concerning these fiduciary operations. All assets held in a fiduciary capacity must be segregated from other assets and a separate record of the fiduciary assets must be kept. No national bank is allowed to receive in its trust department deposits of current funds, bills of exchange, and the like. Trust funds awaiting investment must not be used by national banks in the conduct of their business unless the national banks first set aside in their trust departments United States bonds or securities approved by the Board. Finally, if the state law requires trust companies to deposit securities with a state authority as protection for private or court trusts, national banks must do likewise. The purpose of these stipulations is to place the national banks on a competitive level with other banks doing a trust business.

Section 11 *k* of the act has been the cause of considerable litigation. There was some question as to whether Congress had power to allow national banks to engage in these operations. The modifying clause "when not in contravention of state or local law" was capable of various interpretations. Did it mean that the various states could grant power to their state banks to engage in fiduciary operations and at the same time prohibit national banks from doing a fiduciary business? In a series of decisions beginning with *First National Bank of Bay City vs. Grant Fellows* (244 U. S. 416) and ending with *The State of Missouri vs. A. B. Duncan* (265 U. S. 17), decided in 1924, the Supreme Court of the United States has decided that Congress can grant this power to national banks and that the various states cannot prohibit national banks from engaging in fiduciary operations if state banks are permitted to do so. At the end of 1935,

1,923 national banks held permits from the Board to exercise trust powers.

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CHAPTER XXV

SAVINGS BANKS

The chief function of trust companies as such is to maintain the wealth which has been created. This is exceedingly important, because if the wealth which is the result of past effort is dissipated, then the next generation must strive to make up the deficiency. If, however, that wealth is maintained intact, then the next generation can increase the sum total of wealth, thereby increasing the capital equipment of society and raising the standard of living.

The financial institutions discussed in the remaining part of this book have as their chief function the accumulation and transfer of fixed capital. These institutions encourage individuals or corporations to save; they also assist in putting these savings at the disposal of those best qualified to manage them. This separation of the managerial from the ownership function has been made possible in part by the growth of such institutions as savings banks and investment houses.

I. THE NATURE OF SAVINGS BANKS

Perhaps the best way to get at the nature of savings banks is to consider them from the point of view of function. Savings banks assist in the accumulation and transfer of fixed capital. They assist in this process of capital accumulation, first, by providing a safe place for the keeping of money and, second, by "bribing" individuals to save by paying an interest rate upon savings deposits. "Savings banks stimulate thrift" is the common way of saying the same thing. By making provisions for the keeping of funds or rights to money, the savings bank makes it safer for individuals to save. It is not necessary to do as Pepys did when he sent some gold pieces to his wife then living in the country, and she, good woman that she was, buried them in the ground so that thieves would not break in and steal. When Pepys arrived at his country place he immediately proceeded to

light a lantern and dig up the gold for fear that some one had seen his wife bury it.

Such a method of keeping money is no longer necessary, because savings banks now furnish a safe place for funds. This is more important than is generally realized, because nothing is so destructive to thrift as the thought that money may be stolen if saved. With such a thought there is little or no disposition to save.

But having secured these savings the bank does not keep them in the form of idle money. They are invested—subject to investment laws of the state—in various classes of securities. In other words, the savings bank not only assists in the accumulation of capital but also transfers that capital to certain selected industries by purchasing securities of corporations and making real-estate mortgage loans.

The savings bank, unlike the commercial bank, does not create or manufacture credit. It simply serves as a depository for savings. Deposits in savings banks are generally left for a considerable period of time and cannot under ordinary conditions be checked out. If the depositor wants to withdraw his money in whole or in part, he is expected to bring his deposit book to the savings bank; the money is given to him and the amount drawn out is deducted from his account. Moreover, deposits in commercial banks fluctuate rather widely in accordance with the business cycle, while deposits in savings banks are not greatly affected by an ordinary cycle. Again, deposits in commercial banks are payable on demand while savings banks may require 30 days' notice before a deposit is withdrawn. This right to require a notice before withdrawal of deposits is seldom used, but during a panic, as for example, the panics of 1893, 1907, and 1933, many savings banks required a notice.

Interest on deposits is computed semiannually in most places, though competition for such deposits has become so keen that many banks compute the interest monthly and then pay interest on the interest.

Because of the difference in the type of deposits in savings banks as contrasted with those in commercial banks, there is a difference in the reserves and investments of savings banks. Long-time deposits with comparatively few withdrawals do not require such large reserves as circulating deposits that show

greater irregularity. Consequently, savings banks as a matter of banking law and banking policy do not keep such large reserves as commercial banks. Moreover, commercial banks must have a large percentage of their investments in short-time loans so as to be able to meet any unusual demands for cash; savings banks, on the other hand, invest mainly in long-term securities. Finally, the law restricts the investments of savings banks to an unusual extent because the depositors are generally of the working classes, while the restrictions upon the investments of commercial banks are not so hard and fast.

II. THE DEVELOPMENT OF SAVINGS BANKS

Following the French Revolution, economists and philanthropists in all parts of Europe began to study the causes of such an upheaval and found that, while many different factors had contributed to this crisis, the main cause was the poverty of the lower classes and the legislative restrictions surrounding them. Many projects to ameliorate such conditions were proposed and prominent among them was the proposal to establish banks for the safekeeping and the increase in the small savings of the working classes. The resources of these classes had largely gone to waste because of the lack of facilities for safekeeping. As a result, when adverse conditions faced the masses, they had nothing in reserve upon which to subsist and became a menace to the state. The same instincts for accumulating wealth, under the proper inducements which exist today, were considered by economists of that day with the result that many openly advocated the establishment of savings banks. However, wages at that time were low and neither the power nor the inclination on the part of the wage earners to save had been demonstrated. As a result the project was ridiculed and met with considerable opposition.

Although the savings-bank movement owes its inception to such patriotic sentiments as have been mentioned, yet its early history marks it as a religious movement, since it was connected with the church in almost every case. The history of the early banks in England, Ireland, and Scotland shows that almost invariably the banks were organized and in a large measure conducted by the clergy. The motives back of this were, first, to inculcate habits of thrift and industry among the people and,

second, as a result of thrift, to rid the church of the load which poverty placed upon her finances. The primary motive, however, was philanthropic.

The honor of establishing the first savings bank is in dispute between England and Germany. Germany did establish a savings bank for the wage earner in 1705, and is sometimes given credit for originating the movement; yet Mr. Lewins¹ remarks that the savings institutions of Germany were something very different from the savings banks as the English people understand them, for the institutions at Hamburg simply took the spare cash of the wage earners and granted them annuities when they arrived at a certain age. No withdrawals of money were allowed.

The Rev. Henry Duncan's "Parish Bank" established at Ruthwell in Dumfriesshire, Scotland, in 1810, is generally considered the first savings bank of which there is any record. This bank served three types of depositors and was governed by a "court of directors." Four years after the founding of Duncan's bank, the Edinburgh Savings Bank was organized, an institution which is still performing a highly useful ministry to its community, and which ranks fourth in the amount of deposits among all the savings banks in Great Britain. After that time savings banks began to multiply rapidly in the United Kingdom. In 1817, because of abuses and fraudulent operations which had crept in, Parliament began to regulate and control savings banks. After suitable legislation had been passed, the trustee savings banks were gradually established in England, Wales, Scotland, and Ireland.

The movement soon spread to the United States. New York has the honor of being the first city to institute the movement in this country, Philadelphia the first to put it into operation, and Boston the first to incorporate savings banks. For chronological purposes, the following summary from Paine's *Banking Laws* indicates the introduction of savings banks in the United States:

1. Philadelphia Savings Fund Society, organized in 1816 as a voluntary association. Began to receive deposits December 2, 1816. Chartered February 25, 1819.

¹ *History of Banks for Savings in Great Britain and Ireland*, cited by W. H. Kniffin, Jr., *op. cit.*

2. The Provident Institution for Savings in the Town of Boston, incorporated December 3, 1816
3. The Savings Bank of Baltimore, incorporated December, 1818. First deposit March 16, 1818.
4. Bank for Savings, New York (first conceived in 1816), chartered March 26, 1819. First deposit received July 3, 1819.

The Industrial Revolution, which brought the employee class into the large cities, was the factor which contributed most toward the establishment of savings banks in the United States. Up to that time agriculture had been the major industry and surplus earnings were invested in improvements and additions to farms. However, the employees of the mills and shipyards had no farms in which to invest their earnings, so the shops, saloons, and crooks generally got them. These industrial employees gave savings banks their first support.

The movement continued to grow and spread to the other sections of the United States. Instead of four or five savings banks accumulating and investing the savings of the few thousand depositors, there grew up hundreds of savings banks with deposits measured in billions of dollars. The opening up of savings departments of national banks and state banks stimulated the growth of savings, while the adoption of the Postal Savings System in 1910 made it possible to reach large numbers of potential depositors who were not willing to trust their savings to ordinary banks.

By midyear 1936, there were more than 900 savings banks proper with deposits of about \$11,000,000,000, representing some 15,000,000 depositors. In addition, the 14,059 insured commercial banks reported time and savings deposits of \$13,630,000,000.

III. TYPES OF SAVINGS BANKS

Savings banks are of two general types: (1) mutual, and (2) stock. In view of their differing features, separate consideration must be given to each type.

1. MUTUAL SAVINGS BANKS

The mutual savings bank which predominates in New England and New York is a benevolent institution. It is not like a business corporation organized and managed for profit to stockholders, but on the contrary it is operated for the sole benefit of the

depositors. That is to say, the depositors in a mutual savings bank share in the profits in accordance with the size of their deposits. Consequently, it is in the nature of a cooperative bank. Such a bank has no capital stock and no stockholders. A non-salaried board of trustees supervises the investment of deposits and has general oversight over its affairs. On June 30, 1936, there were 566 mutual savings banks with deposits of \$10,060,000,000.

2. STOCK SAVINGS BANKS

The stock savings bank is a private business corporation organized and operated to make a profit. It has capital stock, stockholders, a board of directors selected by the stockholders, and committees selected by directors to take charge of certain operations of the bank. It pays a stated interest on deposits and the earnings over and above all its expenses accrue to the benefit of the stockholders. As compared with the mutuals, such banks are relatively unimportant. At midyear 1935, the Comptroller of the Currency reported 341 stock savings banks with deposits of \$714,900,000. California banks held about 80 per cent of these deposits. Iowa and New Jersey accounted for another 14 per cent of the total.

Assuming the same quality of management, the depositor should receive a higher interest rate in the mutual type of savings banks than he does in the stock type, because all net income is divided among the depositors in the mutual type, whereas the stockholders receive part of the net earnings of a stock bank. The conclusion does not follow, however, that depositors' interests are always better served by mutual institutions. In fact, the costs of mismanagement are borne by the stockholders of a stock bank unless the losses exceed their equity. In a mutual bank the losses fall directly upon depositors.

IV. INVESTMENTS AND RESERVES OF SAVINGS BANKS

The big problem in managing a savings bank is to preserve the proper relationship between reserves and deposits and between investments and interest rate. Keeping the reserves too low renders the bank open to a run; keeping them too high means that the bank has too large a percentage of its funds in idle assets. Investing these funds so as to obtain the highest rate of return may bring a high yield but a low degree of safety; investing the

funds in the safest possible securities makes for safety of income and principal but at the same time keeps the rate low. The managers of savings banks must preserve the proper balance between deposits and reserves as well as the proper balance between security of investments and rate of return paid depositors.

Savings banks do not need to maintain large reserves because they may require a notice before deposits are withdrawn, and also because their deposits do not fluctuate as widely as deposits in commercial banks. Consequently, the law in many states does not require savings banks to maintain legal minimum reserves. Managers, therefore, use their discretion in maintaining sufficient cash to meet the demands of depositors.

The investments of savings banks are carefully guarded by state law. The reason for this is that savings-bank depositors are entitled to a high degree of protection which can best be assured by proper governmental regulation. Not only do the state laws limit the securities which savings banks may buy, but they also limit the amount of funds which can be invested in one particular security. Thus, the savings banks of New Hampshire are not allowed to invest more than 5 per cent of their deposits in farm loan bonds issued under the Federal Farm Loan Act. Moreover, many savings-bank laws are drawn with the idea of making it possible for savings banks to invest some of their funds in local businesses even though such investments may not have a high degree of safety. For example, the New Hampshire law allows savings banks to invest in timber bonds, provided the bond issue is only 50 per cent of the value of the timber and provided also the timber is located in New Hampshire. This is a survival of one of our persistent economic heresies—the old home-industries argument.

These savings-bank investment laws are changed from time to time in accordance with new conditions. After the panic of 1907 many states passed laws allowing savings banks to invest in commercial paper. Vermont now permits savings banks to purchase some foreign bonds. Massachusetts passed a law in 1926 allowing her savings banks to invest in public-utility bonds, though the law is somewhat vague and indefinite.

While it is true that each state has a different law, the law of New York has frequently been followed by other states. It may be well, therefore, to state what investments are legal for savings

banks in that state. The following summary gives the main points of the New York law:

1. Federal government and state bonds:
 - a. Bonds of the United States
 - b. Bonds of New York State
 - c. Bonds of other states which have not defaulted for 10 years
2. Municipal bonds:
 - a. Any New York municipality or political subdivision
 - b. Bonds of any political subdivision of any state adjoining New York, provided that the indebtedness of the subdivision does not exceed 7 per cent of the value of the property located in the political subdivision
 - c. Bonds of any city in any state admitted to the Union prior to 1896 which has not defaulted since 1878. The city must have a population of at least 45,000. The 7 per cent debt limit applies as in b
3. Bonds and real-estate mortgages:

Bonds and mortgages on real estate located in New York, provided that such bonds and mortgages are not for more than 60 per cent of the appraised value of the improved property or 40 per cent of the value of the unimproved property. Not more than 70 per cent of the deposits and guaranty fund may be invested in such bonds and mortgages
4. Railroad bonds:
 - a. First or refunding mortgage bond of any railroad corporation if the principal part of the railroad is in New York or if the railroad connects with another railroad, provided that the majority stock of the connecting railroad is owned by the railroad located in New York. Such railroad must have paid at least 4 per cent on its capital stock for five years in addition to meeting the interest and principal of its bonds. The stock of such railroad must be equal to one-third of the securities of the railroad
 - b. Mortgage bonds of other railroads, provided that they have paid at least 4 per cent on their capital stock for the last ten years, and provided also that the capital stock of the railroads is equal to one-third of its bonded debt
 - c. Mortgage bonds of certain other railroads
 - d. Not more than 25 per cent of the assets of a savings bank may be invested in railroad bonds and not more than 10 per cent of the assets may be invested in bonds described in (a); and not more than 5 per cent of the assets in bonds described in (b) and (c)
5. Promissory notes:
 - a. Notes made payable to the savings bank, provided that the collateral conforms to certain restrictions and has a market. The notes must not exceed 90 per cent of the value of the collateral
 - b. Notes made payable on demand to savings banks by a savings and loan association of New York, if it has been incorporated for three years or more and has a capital of at least \$50,000

- c. Notes made payable to the savings bank secured by a pledge of a first mortgage on New York real estate
- d. Ninety-day notes secured by a passbook of any New York savings bank
- 6. Federal Farm Loan bonds:
Bonds of the Land Bank of the state of New York; and farm loan bonds of the Federal Land Bank of the First Federal Land Bank District
- 7. Bankers' acceptances:
Bankers' acceptances and bills of exchange, provided that they are eligible for investment by Federal reserve banks and provided further they are accepted by a bank qualified to exercise this power. Not more than 20 per cent of the assets of a savings bank can be invested in bankers' acceptances

While most of these investments have a high degree of safety, it is evident that the law is also concerned with the promotion of home industry by making securities of such industries eligible for investment. For example, the bonds issued by the land bank of the Second Federal Land Bank district are just as safe as those issued by the bank in the First district simply because the bonds issued by one bank are obligations of all land banks. None the less, the law does not permit the savings bank in New York to purchase the bonds issued by the other 11 land banks.

V. SAVINGS DEPARTMENTS OF NATIONAL BANKS

There was nothing in the old national banking law which specifically gave national banks the power to accept savings deposits. At the same time there was nothing in the law which prohibited national banks from accepting such deposits. In 1903 the Comptroller of the Currency ruled that the paying of interest on deposits was a matter to be settled by the board of directors of each national bank. The courts have recognized the right of national banks to adopt rules governing the payment of interest on such deposits because such action has been interpreted as coming within the meaning of the phrase "business incidental to banking." Finally, the Federal Reserve Act specifically recognized time deposits by permitting national banks to maintain a lower reserve against such deposits and by opening up the field of real-estate loans.

This change enabled them to compete for savings deposits, whereas the heavy restrictions of the old law made such business unattractive. Time and savings deposits expanded steadily from \$526,000,000 at midyear 1913 to \$8,753,000,000 in 1930.

During the depression, bank failures and the use of savings for consumption purposes brought about a sharp decline to \$6,217,000,000 in 1933. Since then a part of the lost ground has been regained. At midyear 1936, the amount of such deposits was \$7,510,000,000.¹

National banks are not so narrowly restricted in investing their savings deposits as are the mutual savings banks. Subject to the restriction that national banks cannot buy stock except in a very few cases, the manager of a national bank with a savings department has a relatively free hand in investing the savings funds. However, since the Comptroller's investment regulations issued in February, 1936, national banks have been prohibited from purchasing "distinctly or predominately speculative" securities. The Banking Acts of 1933 and 1935 also imposed further restrictions.² But despite these new regulations the national banker possesses far greater investment leeway than the savings banker proper.

A needed reform of the national banking law is the complete segregation of savings-department business from the commercial department. At present the savings depositors of a national bank are in effect placed in an inferior position to the demand depositors. This results from the fact that the latter may withdraw their funds immediately at the first sign of weakness, whereas the bank may require 30 days' or more notice of the savings depositors, after which time only inferior assets may remain. To a large extent, it is true, this defect has been, or may be, remedied by the new system of deposit insurance. Even so, it is believed that there remain sufficient reasons to make such a change in the law very desirable.

In addition to the national banks, state-chartered commercial banks have built up a large savings-department business. The time deposits of the 8,691 insured state banks amounted to \$6,121,000,000 on June 30, 1936.

VI. THE POSTAL SAVINGS SYSTEM

The United States Postal Savings System began operations in 1911. It was designed to furnish savings facilities for immi-

¹ Figures taken from annual reports of the Comptroller of the Currency.

² See pp 330-332 for a more complete account of bank investment restrictions.

grants, and other small savers who feared the safety of private banks.

The administration of the Postal Savings System is placed upon the Postmaster-General and the Board of Trustees. The former is charged with the duty of deciding upon the post offices that are to receive deposits, the control of the business transacted at these offices, and the control of the central administrative office at Washington. The Board of Trustees, consisting of the Postmaster-General, the Attorney-General, and the Secretary of the Treasury, representing the postal, legal, and fiscal departments of the Government, manage and invest these funds after they leave the control of the Postmaster-General.

The point of contact with depositors is at the local post office which receives and pays out money in accordance with regulations. Any person living in a town which does not have a post office may make deposits by mail. These deposits may be made in sums of not less than \$1; no depositor can have a deposit exceeding \$2,500. For those unable to deposit \$1 at a time a card with ten spaces is provided, each space to be taken by a 10-cent postal-savings stamp bought at the post office. After this card has been filled the depositor can surrender it and secure either a certificate of deposit for \$1, or cash. All deposits are evidenced by certificates of deposit, which are not transferable.

The interest received by depositors is at the rate of two per cent compounded quarterly.¹ However, no interest is allowed for any period less than three months.

The Board of Trustees may place the funds on deposit in qualified banks at $2\frac{1}{2}$ per cent interest, or may invest them in United States securities. Until recently the former practice was followed for the most part. But since 1931 investment opportunities have been so unattractive that few banks have accepted such deposits, with the result that they have been largely invested in United States securities.

The growth of the volume of postal-savings deposits was steady until 1919, when the amount reached \$167,000,000. A small decline occurred in the next few years, but no significant change took place until the depression generated widespread fear of

¹ Unless a lower rate should be set by the Board of Governors of the Federal Reserve System for member banks. In that event, the postal-savings rate would be lowered in conformity.

the banks after 1930. Since 1933 the amount has been in the vicinity of \$1,200,000,000, although during 1936 it climbed to \$1,260,000,000.

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CHAPTER XXVI

INVESTMENT BANKS

This discussion of investment banks is concerned with high-grade institutions that aim to sell to their clients more than once. It is not concerned with the "fly-by-night" houses or the bucket shops which have preyed upon unsuspecting investors. Nor is it to be understood from this discussion that all new security issues are sold by investment banks. This is not so. Frequently, business corporations sell their securities without the intermediation of an investment banker. None the less, it is true that even those businesses which do sell some of their securities directly to investors rely to a greater or less degree upon an investment bank.

The investment banker occupies such a strategic position in our economic system that he has been called "the entrepreneur of entrepreneurs." Precisely why he has been given this term is explained in this chapter.

I. THE DEVELOPMENT OF INVESTMENT BANKING

1. FOREIGN COUNTRIES

The development of investment banking may be divided roughly into two periods: first, the period prior to the Industrial Revolution; and, second, the period from the Industrial Revolution to the present. Investment-banking functions during the earlier period were performed by moneylenders who supplied kings and other potentates with funds to wage wars, or to pay debts or bribes. Then as now, the sovereign relied upon taxes to support the government but these taxes came in intermittently. A king or queen being in immediate need of funds borrowed the money and either promised to pay the lender from the taxes or allowed the lender the power to collect the taxes in the future. For example, Ptolemy XIII, the father of Cleopatra, borrowed a large sum of money from the great financier, Rabirius Postumus,

and used about a million and a half sterling to bribe Caesar to recognize him as king of Egypt. The increased taxation necessary to pay the loan was responsible in part for the ensuing rebellion which drove the king from Alexandria and brought Cleopatra to the throne.¹

Another form of investment banking, especially in the medieval period, was the sale of rent charges. A sovereign or minor ruler perhaps wanted money to equip his retainers who were about to start on a crusade. He might sell to a moneylender his rights to receive rentals. A sale of these rent charges was in effect equivalent to discounting future income, differing in no essential respect from the sale of government bonds based upon future taxes. One of the leading banking families during this period was the Fuggers. We are told that by 1487 this family "had attained much power as supporters of the royal governments."

Banking in general suffered from a severe handicap during the medieval period because of the attitude of the Church toward interest. The Pope forbade it for a time and excommunicated those who took it. Later, however, the attitude of the Church changed so that eventually it dropped all restrictions against interest.

The loans made by moneylenders prior to the Industrial Revolution were made largely for consumptive or destructive purposes. Since that time loans have been made chiefly for productive purposes, though many loans made to warring countries have been used for destruction. Partly because of this difference in purpose and partly because of the widened scope of investment banking operations, the Industrial Revolution marks a turning point in its development.

Since the Industrial Revolution investment banking has developed rather rapidly. This event was both a cause and an effect of the use of steam as motive power, the introduction of the factory system, and the widening of the market. These forces in turn made for large-scale production carried on by business corporations needing large amounts of capital. Consequently, one of the problems was that of securing a large amount of capital. At this point the investment banker bridges the gap between

¹ Arthur Weigall, *The Life and Times of Cleopatra* (New York, G. P. Putnam's Sons, 1924), p. 56.

those who have capital to invest and those who can use it to advantage. Doubtless this capital accumulation was a slow process in the early days, but, with the increase in production, capital accumulation grew accordingly.

Nathan Rothschild of London has been called the father of investment banking. Convinced that the French were to be defeated at the Battle of Waterloo, he rode furiously from the field, so it is reported, crossed the English Channel, and when rumors were rife of the defeat of the Allies he placed all his money in British consols, which advanced in price when the real result of the battle was known. The banking house of Rothschild continued to grow, and between 1818 and 1832 it had made loans to Prussia, Austria, Naples, and Brazil. In 1838 August Belmont came to the United States as a representative of the Rothschilds to look after English investments in American railroads.

2. THE UNITED STATES

The investment banking business in the United States developed from the older commercial banking firms. Several of these firms were in existence prior to the Civil War. Jay Cooke was one of the most famous of the early investment bankers. He had been impressed with the operations of the French *syndicat* and undertook to sell United States Government bonds during the Civil War. For this purpose he hired about 2,500 salesmen in a large number of cities and conducted a selling campaign. Cooke later on was connected with the building of the Northern Pacific Railroad.

Still later, especially during the panic of 1892, two great banking houses were engaged in selling railroad securities and in reorganizing railroads. These two houses—J. P. Morgan and Company, and Kuhn, Loeb and Company—acted as bankers for bankrupt railroads and since that time have continued to do a great deal of the investment banking work for various railroad corporations. Later on, with the development of the public utility business, the house of N. W. Harris and Company, later called Harris, Forbes and Company, emerged.

The World War brought about a remarkable change in the international capital market. Since that time the investors of the United States have not only bought back a large percentage

of the American securities previously sold abroad but also have purchased large amounts of foreign securities—both government and corporate. During the period 1919–1931, the flotations of foreign issues in the United States aggregated \$10,260,000,000.¹ Since then only a small amount of such issues has been offered.

II. FUNCTIONS OF INVESTMENT BANKS

1. MEDIATION

The investment bank acts as a bridge between capital users and capital savers. It is interpolated between those having capital to invest and those needing such capital. An investment bank is a middleman creating “ownership utility” by buying an issue of securities and then selling those securities to investors. By so doing it makes possible a separation of the ownership from the managerial function.

In many of its characteristics the investment banking business resembles merchandising more than banking. A merchant buys goods and then sells them. An investment banker buys securities and then sells them. Investment bankers, however, deal only in representative values—bonds or stocks—whereas the merchant deals in actual commodities such as sugar, soap, sirup, and salt. The profit made by the merchant depends upon his volume and the difference between the cost and the sales price. The same is true of the investment banker. The problem of the merchant is to buy commodities that he can sell; the problem of the investment banker is about the same. In the matter of securities, tastes fluctuate widely. At one time the market may absorb almost any kind of security, while at another time it is confined to very high-grade bonds. The success of the investment banker, like the success of the merchant, rests largely upon his ability to satisfy this taste.

The investment banker is not to be confused with the broker. The broker acts merely as an agent while the investment banker deals on his own account. An investment banker buys an issue of securities outright and then proceeds to sell it. The broker, on the contrary, simply arranges for the buyer and seller to get together. The investment banker assumes a risk; the broker assumes no such risk.

¹ *Annual Report of the Board of Governors for 1935*, p. 183.

Business corporations rarely sell their own securities directly. While it is true that there has been a great growth of direct selling, none the less, reliance is still placed upon the investment bank. But why is this so? There are two reasons: first, economy; and, second, certainty.

A business corporation, let us assume, needs \$25,000,000 additional capital for expansion. If it were to organize its own investment banking agency it would take considerable time and money. A selling organization would have to be developed: circulars would need to be printed; newspaper advertising would be necessary. But once this had been done the organization would in all probability have no further investment banking work to do for some time. All this expense, therefore, would be incurred for one occasion. Consequently, business enterprises have discovered that it is cheaper to obtain the necessary money by having an investment banker buy the securities and in turn sell them to ultimate investors. The investment banker is a specialist in that field just as a steel manufacturer is a specialist in his field.

There is another reason why business corporations do not sell their own securities. If they relied upon their own efforts, they would not be sure of securing the money necessary for these improvements which have been contracted for in advance. The business corporation must know in advance that the money is forthcoming at the *proper time*. If it is not, the credit of the corporation is weakened. The banker agrees to place the money at the disposal of the corporation as of a certain date when he takes over a security issue.

2. SELECTION OF RISKS

In addition to performing the mediation function, the investment banker must select rather carefully those businesses whose securities he is willing to take over and offer to the investors. This is by no means an easy task. Each year hundreds of business enterprises apply to him for funds. How is he to separate the good from the bad, the wheat from the chaff? To aid him in this selective function he uses three types of experts—the engineer, the accountant, and the lawyer.

a. Work of the Experts

The amount of engineering work to be done in connection with proposed security issues depends upon the type of business issuing the securities. Engineers would have little to do in connection with the issue of municipal bonds but would have a great deal to do in connection with the issue of electric light and power bonds. Let us, for example, consider the work of the engineers in investigating and analyzing an electric light and power corporation which is about to issue new securities. The engineers will make an examination of the physical plant or property to see that it is in good shape and that the equipment is modern. They will check construction costs to see if they are too high. They may also make an examination of the market to discover how many customers will buy this electric service at wholesale and how many will buy it at retail. This market analysis may go so far as to include an examination of possible changes in rates for wholesale and retail customers.

The accountant is needed in almost all proposed issues. His work has to do largely with the balance sheets and income accounts of the company over a period of years. The difference between the investment banker and commercial banker is reflected in their attitude toward these two financial statements. The commercial banker is more concerned with the amount and character of current assets and current liabilities. The investment banker is not primarily concerned with net working capital or even with the balance sheet. His chief interest is in the income account because this account shows whether the corporation has managed wisely those assets listed in the balance sheet. A corporation may have at its disposal all the assets necessary to conduct the business profitably and still not make money because of bad management. Good management, in other words, reveals itself in profits; and if the business has made profits and has good prospects the investment banker is very likely to be willing to take over an issue of its securities.

Finally, an investment banker utilizes the services of a lawyer. Lawyers examine the deed to the property to see if the title is clear; they consider such matters as the legality of the proposed issue and various other matters connected with corporation law.

- If the corporation is a public utility, the lawyers examine the franchise to discover if it extends beyond the life of the bond and contains no unduly burdensome restrictions. Moreover, with the development of state and Federal control over public utilities and railroads, lawyers pay increasing attention to such questions of control. Then the lawyers draw up or check the corporation mortgage securing the bonds. This has become a fine art because of the great amount of detail found in most corporate mortgages. If the security is a municipal bond issue, the lawyers must see to it that the requirements of the state law have been satisfied.

b. Purchasing the Issue; the Buying Syndicate

After the different reports have been rendered by these three types of experts, the investment banker may decide to take over the issue. This is his responsibility. It is his decision. The accountant may not show a large amount of contingent liabilities, the engineers may make some errors, and the lawyer may be a little careless in his work. None the less, the responsibility for buying the issue is peculiarly that of the investment banker. He puts his good name to the issue; its failure or success rests upon him.

In buying security issues the investment banker may form a syndicate. This syndicate lasts only during the period of disposing of the securities. If the amount of securities is small, the investment banker may rely upon his own efforts to sell them; but if it is large, he does not want to assume the entire risk and so a syndicate is organized. The issuer is paid so much for the securities and is out of the deal.

c The Social Aspect

From the viewpoint of society the investment banker occupies a position of heavy responsibility, and it is, therefore, essential that his job be done efficiently and honestly. He determines by means of analysis and investigation the outlets for the freshly accumulated supply of capital. By so doing he directs the capital of the country into various fields and decides what enterprises are entitled to this capital. This selective process prevents capital from going into those enterprises which will not pay and by so doing puts it at the disposal of those businesses which have

considerable social utility. For example, some years ago a railroad called the Pittsburgh, Binghamton and Eastern was projected through parts of Pennsylvania and New York. The investment banker thought that it would pay and sold an issue of its bonds. After much construction work, which included some expensive cuts through solid rock, the enterprise was abandoned and the security holders lost their money. Had the investment banker been more careful in his decision, this project would not have been started, the investors would not have lost their money, and, most important of all, this capital would have gone instead into a paying business, adding thereby to the total wealth and income of the country.

3. MARKETING THE ISSUE

a. The Selling Syndicate

Selling the securities is the next step. This is usually done by means of a selling syndicate, likewise large or small, depending upon the size of the issue. Each member of the syndicate agrees to sell so many bonds or shares of stock. If the issue is an exceedingly large one, the members of the selling syndicate cover the country thoroughly. For example, there were 150 houses and more than 1,000 dealers and banks in the selling syndicate of a recent foreign bond issue. This selling syndicate secured a very widespread distribution of these securities.

During 1931 and 1932 a committee of the United States Senate investigated the sale of foreign securities in the United States and published a large amount of data about such security sales. Much of this data had not previously been made public. One such transaction shows how the sale was carried through.¹ On July 25, 1930, \$25,000,000 of 7 per cent bonds of the Austrian government were offered for sale at 95. The bonds were purchased at 91, making a total spread of four points between the purchase and final sales price. J. P. Morgan and Company received a commission of 0.2 per cent for managing the original syndicate. Of the original syndicate 11 members got a commission of 0.8 per cent and 134 members of the intermediate group received a commission of 1 per cent. The members of the

¹ *Hearings before the Committee on Finance, United States Senate, 72d Congress, 1st Session, Pursuant to Senate Resolution 19, Part 1, p. 159.*

distributing syndicate—there were 726 of them—received a commission of 2 per cent before deducting the expenses of the syndicate. The National City Company participated in the underwriting syndicate to the extent of \$3,687,500, in the banking group to the amount of \$2,000,000, and in the selling group to the extent of \$1,250,000. It made 373 retail sales. Its net profit on this entire transaction was \$61,158.12.¹

III. TYPES OF INVESTMENT BANKS

Any classification of investment banks is more or less arbitrary. Nevertheless, it may be well to group them under the following heads: (1) form of organization, (2) wholesalers or retailers, and (3) engineering-banking houses.

1. FORM OF ORGANIZATION

Many of the old investment banks are unincorporated. They are usually organized as partnerships because the partnership form of organization with its unlimited liability appeals to investors. Another reason for the partnerships form is that any business organized as a corporation cannot have a seat on the New York Stock Exchange. This is rather important because many investment banking houses find it desirable to have a trading representative on the floor of the Exchange. In recent years, however, the corporate form of organization has gained increasing favor. Many of the great commercial banks formed investment affiliates such as the National City Company, the Guaranty Company, and the Chase Securities Corporation. Subsequently, the Banking Act of 1933 forced the complete segregation of these affiliates.

2. WHOLESALERS AND RETAILERS

The term "wholesaler" as applied to an investment bank refers to those banks of large financial strength who originate and purchase security issues and in turn sell them at a profit to other dealers. Such wholesalers do not sell securities directly to the ultimate investor. They have no selling organization for this purpose. There are probably not more than 15 such houses in the United States. Most of them have an international

¹ *Ibid.*, table facing p. 162.

reputation and either originate or are members of buying syndicates of all large issues.

The wholesaler-retailer of securities is the term applied to investment banking houses which originate issues and also sell them at retail. Such houses have an elaborate selling organization and numerous offices scattered all over the country. The securities are sold by means of advertising and by personal solicitation of salesmen. A wholesaler who originates an issue may decide to retail the entire issue, especially if it is a small issue; or, he may ask other wholesale-retail houses to join with him; or he may be a member of the buying syndicate of a large issue and then sell his allotment. The main difference between the wholesaler and the wholesaler-retailer is that the wholesaler has no organization to sell the securities to the ultimate investor while the wholesaler-retailer has. Halsey, Stuart and Company and Bonbright and Company are wholesalers-retailers.

Retailers are usually small houses or dealers who, as a rule, originate no issues but depend upon the other two types for their securities. Such retailers greatly outnumber the other two groups. The great growth in the number of retailers has been one of the comparatively recent developments. There is scarcely a city of any size in the United States that does not have one or more retail houses.

3. ENGINEERING-BANKING COMPANIES

One of the recent developments in investment banking has been the rise of the engineering-banking company. Such companies plan and carry through the construction of new enterprises—generally electric light and power companies—sell the securities of these companies to recoup themselves for construction expenses, and then manage the utilities. In doing this work such companies are subject to two diametrically opposed influences: as builders and operators of such companies they are anxious to get the capital under the least onerous conditions; as investment banking concerns they are obliged to look after their investors. It is a modern example of trying to serve two masters.

IV. REGULATION OF INVESTMENT BANKING

In contrast with commercial banking, investment banking has until recently been comparatively free from government regula-

tion in the United States. Certain abuses in the field, however, led to its inclusion in the Roosevelt reform program. The Banking Act of 1933 called for the complete separation of the investment affiliates of commercial banks. But far more important was the legislation embodied in the securities acts of 1933 and 1934. The new Securities and Exchange Commission now possesses broad regulatory powers over all phases of the business.¹

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¹ For a more complete treatment of investment banking regulation see pp. 415-416.

CHAPTER XXVII

INVESTMENT COMPANIES

One of the significant movements in noncommercial banking in the United States since the World War has been the development of investment companies. Although such companies have been in operation in Great Britain since 1860, it was not until 1921 that they secured a "toehold" in the United States. Since that time they have developed very rapidly, until at present (1937) there are several hundred such companies in the United States.

I. DEFINITION

An investment company is a financial institution organized to make it possible for the investor, especially the small investor, to obtain a high degree of safety and return upon his investment by pooling his funds with the funds of other investors in order to take advantage of the principle of diversification and to secure the service of investment experts. The main appeal is to the small investor who, because he is a small investor, finds it difficult to take advantage of the principle of diversification. At the same time, the management of these funds is entrusted to experts who devote their full time to investment problems.

The investment company differs from the holding company and the financing company. The holding company has come into being almost always to control a number of small concerns and direct their policies. Thus, the Illinois Power and Light Corporation holds the stock and controls the policies of a number of small public utility companies. To accomplish this purpose such public utility holding companies frequently issue collateral trust bonds secured by stocks and bonds of the subsidiary companies. The investment company, on the contrary, does not aim at control. It is not concerned with managing the various enterprises, the securities of which it has bought. It does not aim to confine its security purchases to one particular

field, as, *e.g.*, the public utility field, for such a policy does not insure the proper degree of diversification. It simply seeks to purchase good investments for its portfolio. Moreover, the public utility holding company has as its business either directly or indirectly the furnishing of electric service, while the business of the investment company is the furnishing of investment service.

The financing company differs from the investment company in that the financing company seeks to control and manage business corporations while the investment company does not. The financing company may confine its activities to a particular field of activity as, *e.g.*, the public utility field, or it may be engaged in financing businesses in several fields. Such companies frequently operate these businesses either directly or indirectly.

The American and Foreign Power, Inc., organized as a Maine corporation in 1923, is an example of the financing company. As of December 31, 1924, this corporation had assets of about \$50,000,000; and about \$49,000,000 of these assets represented investments in other corporations, largely electric light and power companies operating in Cuba, Panama, Ecuador, and Guatemala. It controlled either directly or indirectly 16 such corporations. The United States and Foreign Securities Corporation, formed in 1925, is empowered "to take part in the organization and operations of corporations." This particular power indicates the difference between the investment company and the financing company: the investment company is not concerned with organization and operation of corporations while the financing company is.

The form of organization is not the important thing in the matter of an investment company. Economic service does not have any necessary connection with a particular legal form of organization. Provided the business has as its chief function the issuing of securities based upon the ownership of various other securities so as to afford the investor a high degree of safety through diversification, it may be well to call the business an investment company whether organized as a Massachusetts trust, a corporation, or a voluntary association. The same principle applies to the securities issued by an investment company. Whether such securities be trust certificates, secured gold bonds, or common stocks is immaterial. They are invest-

ment-company securities if the business issuing them falls within the definition previously given.

II. DEVELOPMENT

1. FOREIGN COUNTRIES

The first investment company seems to have been founded in Belgium in 1822. It was not, however, until 1860 that an investment company was set up in Scotland. At that time British government bonds were paying 3 per cent interest, while the bonds of foreign governments and railways were paying 5 per cent. This higher rate appealed to the Scotch, but at the same time they did not wish to assume the risk of losing their entire capital by placing all of it in one particular foreign investment. An investment company was organized to diversify the investments. A few people experienced in the management of large estates were appointed trustees, and money was entrusted to them to purchase securities. The individual members of the company then received shares in the company in proportion to the capital they invested. If the capital were oversubscribed (as happened later), a second, third, and perhaps a fourth company might be organized. In such cases the various companies had the same management and bylaws as the first. But in each company the management followed the principle of diversifying the securities purchased. The first one formed in Scotland possessed 18 different government obligations. By 1886, 12 such companies with a capital of £6,500,000 had their securities listed on the London Exchange, though doubtless more were in existence. The movement grew rather rapidly after 1886 so that at the present time there are more than 150 such companies having securities listed either in London or in various Scotch cities.

Many of these companies have paid dividends of from 20 to 30 per cent a year on their common shares and a bonus in stock or cash from time to time. It must not be understood, however, that all British investment companies have been successful. One formed in 1909 invested most of its funds in securities issued by Russian corporations. The result can well be imagined.

The investment company has not been so successful in continental Europe as in Great Britain. In many cases these com-

panies on the Continent have been more in the nature of financing companies than investment companies. In other instances they have been formed as appendages to a large bank with disastrous results. Then, too, some of them have been organized for a purpose which comes close to being fraudulent. For example, the Zentralbank in Berne formed two such investment companies in 1906 and 1907. Shortly after their formation the directors of the Zentralbank unloaded upon these two companies at high prices securities which they wanted to dispose of. As a result, holders of the securities of the investment companies suffered heavy losses.

2. THE UNITED STATES

While there were some investment companies in the United States before 1914, it was not until 1921 that an investment company was organized which seized the investment imagination by its rapid growth in assets and the spectacular rise of its common shares. This was the International Securities Trust of America. Its assets increased from \$6,000 in 1922 to \$60,784,000 in 1928; its net earnings advanced from \$74,586 in 1924 to \$5,208,000 in 1928; the price of its common stock increased more than 600 per cent between 1922 and 1926. The success of this company attracted the attention of others, and in a comparatively short time there were many imitators. At about the time International was formed, some investment companies of the fixed type offered their securities for sale; and little or no difficulty was experienced in selling them.

This period of experimentation ended about 1924. By that time not more than 30 such companies had been formed with invested capital not in excess of \$75,000,000. For the most part, the movement was confined to New England and New York. More significant than the number of companies and their invested capital was the fact that the investment-company idea "took."

The investment-company movement, from 1924 to the time of the stock market crisis in 1929, continued at an accelerated pace. Without going into too many details, it may not be amiss to point out that large metropolitan banks, investment banks, brokers, investment counselors, groups of individuals, and others thought that their prestige and profits would be increased by the

formation of one or more investment companies. Men totally unfitted for the management of investment companies came to direct them. No difficulty was experienced in selling securities of these companies. Some of them began with a paid-in capital of \$100,000,000; and in certain instances the prices of their common stocks advanced by 100 per cent in six months or less. This reckless expansion continued until the stock market crisis of 1929 pricked the speculative bubble. Up to October, 1929, there had been formed at least 600 investment companies with invested capital of about \$4,000,000,000. Since that time the movement has waned, and few new investment companies have been organized. The emphasis since October, 1929, has been placed on the consolidation of investment companies. "Scientific" management of funds has proved not to be so scientific. The prices of the common stocks of most of these companies sold during the depression for about 80 per cent of their liquidating values. Bankers and brokers who sponsored such companies have engaged in all sorts of operations to nullify shrinkages in the values of their portfolios. Some investment companies have failed; a few promoters have been indicted for fraud; and many of the sponsors and promoters have shown about as much zeal in trying to get rid of them as they originally did in promoting them. In short, the investment-company idea was speculatively exploited during the boom years and has since paid the penalty.

III. REASONS FOR MUSHROOM GROWTH

1. PROMOTERS' PROFITS

The chief reason for the growth of investment companies was the profit to be secured by their promoters, generally bankers and brokers. Bankers had comparatively few securities to sell, because many business corporations were offering rights to their common stockholders and the supply of foreign securities was reduced on account of the poor condition of the bond market. It was comparatively easy for investment bankers to form their own companies and sell their securities. Thus, Goldman, Sachs & Co. formed the Goldman Sachs Trading Corporation, which had no difficulty in securing \$100,000,000 through the sale of its common stock. Later on the Blue Ridge Corporation

and Shenandoah Corporation were formed under the auspices of Goldman, Sachs & Co. and some associates. J. and W. Seligman & Co. and associates formed two investment companies. Dillon, Read & Co. also formed one or more investment companies. In many instances, the promoters secured substantial fees for selling the securities of their pets. Thus, Chatham Phenix Corporation secured a gross profit of \$3,800,000 on the sale of \$50,000,000 securities of Chatham Phenix Allied Corporation which has since been absorbed by the Atlas Utilities. Lehman Bros. secured \$3,600,000 gross on the sale of securities having a par value of \$100,000,000; J. and W. Seligman and associates, \$7,000,000 on the sale of securities of Tri-Continental Allied Co., Inc., which began business with cash assets of \$50,000,000; and the promoters of the very unfortunate Prince and Whitely Trading Corporation secured gross profits of \$2,100,000 on the sale of the securities of that company which began business with \$25,000,000. The percentage of gross profits to the cash assets of these four companies ranged from 3.6 per cent (a modest figure) in the case of the Lehman Corporation to 14 per cent in the case of Tri-Continental Allied Co., Inc. The securities of each of these four companies were offered to the market within one month of each other. It would seem, therefore, that there was not a large change in the conditions of the investment market. None the less, there were very large differences in the fees paid for selling the securities. These fees were paid largely to the bankers who promoted them. That is to say, the banker promoting the investment company made a contract with himself as an investment banker for the sale of the securities of his investment company. In this combination of two functions—banking and promoting—we may be certain that the banker did not overlook his banking interest. Part of the bad odor that still (1937) attaches to investment companies is due to this dual relationship.

Not content with these cash profits, the banker-promoters in many instances received shares of stock at less than that paid by the investing public, warrants to subscribe to future issues of common stock, and large bonuses of common stock for buying a small issue of either the junior preferred stock or the junior bond issues. Typical of the latter was the case of the United States and Foreign Securities Corporation organized in 1924 under the general sponsorship of Dillon, Read & Co. This

investment company authorized and issued 250,000 shares of no-par value \$6 cumulative second preferred stock and 1,000,000 shares of no-par value common stock. The first preferred was sold to the investing public, and one share of common was given as a bonus with one share of that preferred stock, while the promoters and their associates bought the second preferred stock and were given 750,000 shares of common as a bonus, for promoting and managing the company. Put in concrete terms, the promoters and their associates placed themselves in a position to secure three-fourths of the net profits when they have contributed one-fourth of the capital and their managerial ability.

2. BOOMING STOCK MARKET

This main cause—the desire to secure large promoters' profits—could not have succeeded so well had conditions in the security market not been favorable. They were very favorable. There has probably never been such an orgy of organized speculation in the world's history as that which ended in October, 1929. We have had speculative fevers before, such as the Tulip Mania in Holland in 1636 and 1637, the South Sea Bubble, and John Law's Scheme, early in the eighteenth century. But the speculative orgy of the late 20's had more participants than any of these. The demand for common stock as a result of various factors grew by leaps and bounds. The price paid for such shares was of small importance, because, forsooth, they were bound to go higher. As a result, common stocks were selling at ten, twenty, and in some cases thirty or more times their annual net earnings. Even many experienced investors and those with a knowledge of economic history lost all perspective. There was a childlike, naïve belief in a new heaven and especially in a new earth. As a cause and as a result of this belief the Standard Statistics index number of the prices of 404 common stocks—industrials, utilities, and rails—advanced from 100 in 1926 to 225.2 in September, 1929; between August and September, 1929, the index increased by 40 points. During the third week in October, 1929, the Standard Statistics index number of 20 bank stocks stood at 397, when it was 100 during 1926. But the increase in the prices of airplane stocks was even more spectacular. The price of 10 of these stocks advanced from 100 in 1926 to 1,160 during the third

week in July, 1929.¹ The volume of shares sold on the New York Stock Exchange increased from approximately 577,000,000 during 1927 to 1,125,000,000 during 1929. A daily turnover of 8,000,000 shares was common, and on one day as many as 16,000,000 shares were sold. This business taxed the capacity of the Exchange; the ticker was frequently many minutes behind.

3. OTHER FACTORS

Other favorable factors which made it possible for the promoters of investment companies to realize large profits were the rise of the small investor and the acceptance of the idea that investment management requires the skill of experts. The growing importance of the small investor was first shown by the large number of shopkeepers, skilled mechanics, teachers, doctors, and others who bought Liberty bonds during the war period. Hitherto their savings had been entrusted to insurance companies, savings banks, building and loan associations, and the like. Such investment was indirect, whereas it became direct during the war period. The increase in the number of employees of electric light and power companies, telephone companies, steel companies, and others, who took advantage of the opportunity to purchase shares of stock in the companies for which they worked and the substantial increase in the sale of shares of stock to customers of electric light and power companies also attested to the growing importance of the small investor. A third indication of this, the investing power lodged in this group, was the volume of odd-lot sales on the New York Stock Exchange. Odd lots are lots of less than 100 shares; they are usually bought by persons of moderate means. The increase in this business between 1926 and 1929 was phenomenal.

Finally, there has been a growing recognition of the fact that investments cannot be bought and placed in a strong box. On the contrary, they require management because their values change in accordance with the economic and social background of the country, the development of new industries, and the stage of the business cycle. A new invention may cause an old business to lose its earning power; a change in management

¹ For an excellent brief account of speculative bubbles, see Willard L. Thorp, "Speculative Bubbles," *Encyclopaedia of the Social Sciences* (New York, The Macmillan Company, 1930), Vol. 3, pp. 24-27.

may mean failure; and a change in the business cycle may mean a large depreciation in the value of investments.* Recognition of these facts led to a demand for expert investment management.

IV. THE FORM OF ORGANIZATION

Investment companies in the United States have adopted three forms of organization. They are the business corporation, the Massachusetts trust, and the so-called contractual trust.

1. THE CORPORATE FORM

The business corporation has become the most important form of organization. Most of the larger investment companies such as Atlas Corporation, the Lehman Corporation, Second National Investors Corporation, and many others have been organized as corporations. Consequently, they have about all the advantages of business corporations, such as limited liability, permanency, and access to the capital market. The corporate form of business organization possesses the advantage of being well known, and consequently investors are more receptive to the security issues. Investment companies incorporated under Delaware statutes have certain advantages in issuing no-par stock, reducing capital, lower taxes, and the like. Consequently, many of them have taken advantage of the beneficent corporation laws of that state.

2. THE MASSACHUSETTS TRUST

A Massachusetts trust denotes an unincorporated organization created under a written instrument or declaration of trust, the management to be conducted by trustees for the benefit of persons whose legal interests are represented by trustees' receipts or shares. The purposes for which such an organization is formed appear to be without limit in the absence of statutory restrictions. This form of organization comes into being by the drawing up of the deed or declaration of trust. This deed sets forth at some length the purpose for which the trust is formed, the rights and duties of the trustees who have title to the property in which the beneficiaries have an equitable interest evidenced by negotiable instruments similar in many respects to common stock, although the trust may issue preferred stock and bonds of various classes as well. It also provides for the distribution of

the earnings among the security holders with respect to which the trustees generally have unlimited power. They may declare dividends from income or capital, and their judgment appears to be final. The method for liquidating the affairs of the trust is usually included in the deed of trust, and, above all, the language is very precise concerning the matter of control. If control is granted to the shareholders by their power to amend the agreement, to terminate the organization, to remove the trustees and appoint new ones, and to elect trustees annually or to fill vacancies, then the courts usually hold that a partnership and not a pure trust is created. In this event the legal liabilities of the shareholders are the same as the partners in a partnership. In most states the duration of such a trust is limited, but after that time the parties interested can draw up another deed and create another trust, and so on, *ad infinitum*.

3. THE CONTRACTUAL TRUST

The so-called contractual trust form of organization used by the fixed investment companies is in many respects not a trust. What is done in such cases is to draw up a trust agreement designating a trust company as a depository of various securities against which participating certificates are issued and sold. The work of the trust company is largely clerical in its nature.

An attempt has been made to exploit the generally known advantages of the trust relationship by the technical use of the trust form, denuding the trustee, however, of all effective trust powers and reducing the trustee's function to that of a mere depository or custodian. Such agreements are quite common in the field, and the term "investment trust" has been based upon them. Title to the securities is frequently in the name of the trust company. It validates the certificates issued against these securities, collects the income from them, and does other work of a routine nature. But it does not manage the investment fund. As a matter of fact, many of these agreements are really custodian agreements in substance, and some investment companies frankly refer to them as such. In other cases, however, what is created is a trusteeship in which the trustee is shorn of his powers. In still other cases the agreement is a depository agreement. Typical of such is the one executed by the American Trustee Share Corporation, depositor, and Chatham Phenix National Bank and

Trust Company, trustee, creating Diversified Trustee Shares, Series C. Article II, Section 1, of this agreement reads as follows:¹

Notwithstanding the registration of the stock in the name of the trustee, or its nominee, and the designation throughout this agreement or in the certificates of the depositary of the stock and/or securities, as the "trustee," the absolute ownership of all stocks, securities and/or property deposited hereunder shall be vested in the respective certificate holders in proportion to their holdings of certificates, and nothing herein or in the certificates contained shall be deemed to create any trust in the trustee or in the depositor in said deposited shares, securities and/or property.

Stripped of its legal jargon, this agreement designates a bank as a trustee when no trust has been created.

V. THE FINANCIAL PLAN

The financial plan of a business enterprise is the plan of stocks and/or bonds with their respective claims to the earnings and assets and control of the business enterprise. Two types of financial plans have been used by investment companies in the United States. They are the common-stock type and the trading-on-the-equity type. Each of these has some variations which will be mentioned.

1. THE COMMON-STOCK PLAN

All investment companies of the fixed type and some of the general-management type have a common-stock form of financial plan of such a nature that the amount of common stock changes frequently, perhaps daily. An investor desiring to purchase shares of stock in these companies sends in his check for the proper amount, and the investment company issues to him a certificate for the appropriate number of shares. The investment company then utilizes the money to purchase additional securities. If, however, the company is of the fixed type, the investment company purchases blocks of securities and the investor then receives a certificate showing his *pro rata* share in

¹ Article II, Section 1, p. 19 of Agreement dated September 5, 1929, between American Trustee Share Corporation, Depositor, and Chatham Phenix National Bank and Trust Company, Trustee, creating Diversified Trustee Shares, Series C.

this block of securities. As more money is received from time to time, more shares of stock or more blocks of selected stocks are purchased for the portfolio. Irving Investors Management Company, Inc., Investment Fund A and B, Incorporated Investors, and State Street Investment Corporation are examples of investment companies of the general management type utilizing this ever-changing financial plan, while the fixed companies do the same.

A few investment companies divide their common stock issues into two classes—Class A and Class B. The difference between these two classes of stock is that the one class has exclusive control over the investment company through its privilege of electing the directors. It is frequently called management stock. In all other respects these two classes of stock are identical. There is no difference as regards their claims to assets and earnings of the company. Such a plan was adopted by the Chatham Phenix Allied Corporation formed just before the stock market crash in 1929. It issued 1,900,000 shares of non-voting stock and 100,000 shares of voting stock, all of which was owned by the sponsors and their associates.¹ State Street Investment Corporation has also issued two classes of stock. While this subject of no-par nonvoting or par nonvoting stock is a debatable one,² it must be acknowledged that where the voting stock is owned by the sponsors of the investment company and the amount of their capital contribution is very small in proportion to the total capital contribution, it gives the sponsors a chance to dilute the equity of the nonvoting stockholders, unless their interests are protected by drastic provisions.

The theory underlying the adoption of the common-stock type of financial plan is that all the security holders should share equally in the risks and profits of the business enterprise. In view of the fact that the investment fund is administered for the benefit of the investors, presumably of small means, it is thought unwise to discriminate between types of security holders

¹ Chatham Phenix Allied Corporation has since been absorbed by Atlas Corporation which has secured control of a number of investment companies. The name Chatham Phenix has been eliminated.

² Professor Ripley is the keenest critic of nonvoting stock. See W. Z. Ripley, *Main Street and Wall Street* (Boston, Little, Brown & Company, 1927), pp. 78-117.

on the basis of their claims to the assets and earnings of the investment company. That is, it is considered unwise to allow one group of security holders to have a first claim on the earnings and assets and a second group to have what remains. Better, so it is argued, that all security holders share in the risks and enjoy the profits in proportion to the number of shares they purchase.

Simplicity is the second argument advanced for this type of financial plan. The investment-company movement must make its appeal to the small investor; and therefore the financial plan should be simple so that he can understand it. It is because of the complexity of modern corporate finance in part that the small investor is so much at sea concerning investment matters. Holding companies, leases, rentals, various types of securities, outstanding warrants, and the like make it difficult for any but the experienced analyst to arrive at reasonable conclusions concerning investment values. The small investor, therefore, ought to be put in possession of information regarding his company. This information is more understandable if the common-stock type of financial plan is used.

Finally, this type of financial plan is more bankruptcy-proof than one utilizing bonds. An investment company may as a result of unforeseen contingencies be unable to meet the interest on its bonds or pay the principal. In such an event, the bondholders can proceed to enforce the letter of their bond contract and have the company declared bankrupt. It may then liquidate. But a liquidation at that time will probably mean that the value of the portfolio has declined, and consequently the bulk of the assets will be utilized to pay the bondholders. The common stockholders, like the suitor of Lord Ullen's daughter, will be left lamenting.

2. TRADING-ON-THE-EQUITY PLAN

A number of investment companies, following the practice of railroad, public utility, and industrial corporations as well as English investment companies, follow the practice of trading on the equity.¹ "Equity" is used in the sense of meaning ownership in property that assumes a larger degree of risk than some other interest. The reason for adopting this type of financial

¹ For a thorough discussion of trading on the equity see W. H. Lyon, *Capitalization* (Boston, Houghton Mifflin Company, 1916), pp. 50-82.

plan is to make it possible for the owners of the business—the common stockholders—to secure a higher rate of return on their capital by the sale of senior securities having a limited rate of return. The proceeds of these security issues are used to earn a higher rate of return than the investment company pays on them, and the surplus earnings “spill over” for the benefit of the common stock. On the other hand, in the event of declining security values and reduced dividends, the burden first falls upon the common stockholders. Thus the other security holders—those owning bonds or preferred stock or both—have a measure of protection in the capital contribution made by the common stockholders.¹ This increased rate of return for the common stockholders is made possible then only by the assumption of risk.

Two or three examples will show how this type of financial plan operates. Assume that an investment company is organized and issues and sells at par \$5,000,000 of common stock and by the discriminating use of this money is able to make a net return of 10 per cent or \$500,000 on its capital. On the basis of such a record over two years and the equity furnished by the common stockholders, the investment company sells \$5,000,000 of 6 per cent preferred stock. The investment company as a result of excellent management makes the same rate of net return on the \$10,000,000 that it did on \$5,000,000. Of the net earnings amounting to \$1,000,000, \$300,000 are paid to the preferred stockholders and the balance amounting to \$700,000 is available for the common stockholders. This is at the rate of 14 per cent on their investment and this higher rate is made possible by paying but 6 per cent for the money furnished by the preferred stockholder and managing it so wisely as to earn 10 per cent. This additional 4 per cent of \$5,000,000, or \$200,000, “spills over” for the common stockholders. The policy of trading on the equity has increased the rate of return on the common stock from 10 to 14 per cent, an increase of 40 per cent.

Impressed with the profit realized from the preferred stock issue, the investment company then decides to trade still further

¹ In many instances in the case of investment companies this protection is almost negligible, because the common stockholders make little or no capital contribution for the protection of the senior security holders. Frequently, common stock is given as a bonus with bonds; and in such cases the common stockholder parts with no capital.

on the equity. Accordingly, it issues \$5,000,000 of 5 per cent 20-year debenture bonds. The financial plan of the investment company is now as follows:

5 per cent 20-year debenture bonds	\$ 5,000,000
6 per cent preferred stock, \$100 par	5,000,000
Common stock, \$100 par	5,000,000
	<hr/>
	\$15,000,000

Assuming that the company still makes 10 per cent net on its investments, the debenture bondholders will first be paid \$250,000, the preferred stockholders \$300,000, and the balance amounting to \$950,000 remains for the common stockholders. This is at the rate of 19 per cent of their investment. By the sale of bonds bearing 5 per cent interest and utilizing this money to earn 10 per cent, the money furnished by the bondholders has made possible an increased \$250,000 for the common stockholders in addition to the extra \$200,000 made available for them by the sale of 6 per cent preferred stock. By this type of financial plan the return to the common stockholders has been increased from 10 to 19 per cent a year, an increase of 90 per cent.

But this device of trading on the equity may be attended with considerable risk. If the net earnings of the company are based largely on profits made in selling securities—many investment companies in the United States have made the bulk of their money in this manner—and the security market changes so that instead of making 10 per cent net, the company is able to make only 3 per cent net, the earnings will amount to \$450,000. Of this sum, \$250,000 must be used to pay interest on the bonds, and the company has not then enough to pay the full 6 per cent on its preferred stock. No earnings are available for the common stockholders.¹ This is the risk assumed by them. They make a high rate of return if net earnings are high, but they are the first to suffer if net earnings decline.² Moreover, a decline of 50 per cent in net earnings means a decline of more than 50 per cent in the net earnings per share of the common stock. It is evident, therefore, that the practice of trading on the equity is attended with considerable risk. The problem resolves itself

¹ Assuming that no earned surplus has been accumulated. This assumption is made to simplify the problem.

² See W. H. Lyon, *ibid.*, pp. 57-68.

into the question of the regularity and size of net income. Can investment companies like electric light and power companies reasonably plan on a steady income? If so, they can afford to trade on the equity; if not, they are assuming too large a risk.

VI. PORTFOLIO MANAGEMENT

With respect to management of the investment portfolio investment companies may be divided into general management companies and fixed management companies. In the former, the management is given either complete or a large amount of freedom in the choice of the securities purchased for the portfolio; while in the latter the choice of the management is greatly restricted. General management investment companies' portfolios are based upon the correct idea that investment values change; fixed management portfolios are based upon the unsound idea that securities purchased today are good tomorrow. The first theory operates under the idea that investment securities require constant care; the second under the principle that investment management, once the underlying securities are selected, is unnecessary. In some instances the securities in the fixed type of portfolio can be changed but only after the security in question has not paid dividends. This simply means locking the barn door after the horse has been stolen.

The general management type of portfolio was the popular type up to October, 1929. Since that time, many bankers and brokers operating under the profit motive have formed fixed-type investment companies. They were very successful in selling shares of such companies during 1929 and 1930, but few have since been created.

The portfolios of the fixed type as a rule comprise only domestic common stocks. The shares are selected, however, with the aim of providing a considerable amount of diversification by industries. Thus, common stocks of the leading companies in the railroad, public utility, and industrial fields are usually included. An example of such a portfolio is that of North American Trust Shares, 1955. A stock unit of this portfolio contains the common stocks of 23 industrial companies, 7 public utility corporations, and 4 railroads. Against these stocks are issued 100,000 shares. Many of the general management investment companies likewise purchase nothing but domestic common stocks. This portfolio

policy is based upon the general ideas that common stocks represent the most desirable long-term investment.

A few of the investment companies diversify their portfolios by regions, industries, securities, number of securities, and voting power of the securities. Regional diversification is achieved by providing that not more than a certain percentage of the total investments may be made in domestic companies or in any one foreign country. Very few investment companies, however, practice international diversification. Industrial diversification is secured by restrictions requiring investment in a variety of industries—railroads, public utilities, steel companies, oil companies, etc. The aim of security diversification is to distribute the portfolios among various types of security issues, such as bonds, preferred stocks, and common stocks, because these various types of securities represent different degrees of risk. Portfolios are also diversified by the total number of different issues held in them. Some investment company portfolios contain as many as 300 or 400 different securities. The number of issues is necessarily limited by the added management costs of following in detail the affairs of so many corporations. In any event, the idea of diversification is to limit the losses which can arise from any one security. Restriction upon the amount of the capital that can be invested in any one voting security tends to keep the business of investment management separate from business management.

VII. EARNINGS, PROFITS, AND DIVIDENDS

The gross earnings of American investment companies are derived from interest on bonds, dividends on stocks, and profits on security sales. A few minor sources of earnings are available, but these need not be considered. Interest on bonds is comparatively unimportant for most of the American investment companies. Only a few of them have a backlog of bonds, although in 1931 some of the investment companies hitherto purchasing only common stocks bought substantial lots of bonds. Dividends on stocks have been one major source of earnings. As a result of larger cash dividends, stock dividends, and the issuance of rights, many investment companies received a large income from the ownership of stocks during 1927, 1928, and 1929.

Profits on security sales constituted the major part of the income of most American investment companies up to October, 1929. These profits, fortuitous in their nature, were no reflection of able management; the escalator of rising security prices carried up the values of stocks and in some instances large profits were taken. Indeed, it is not going too far to say that the major emphasis up to the time mentioned was upon profits from security sales, not upon income from securities. When the speculative bubble was pricked, not only were these profits not forthcoming, but huge losses on security sales and very large shrinkages in portfolio values were recorded. In some instances the shrinkage amounted to 40, 50, and 60 per cent of the cost of the portfolio.

From the gross income certain deductions must be made to arrive at net income. These include the ordinary expenses of running the corporation, such as clerical and executive expenses; fees for managing the portfolio; various state and federal taxes; interest on bank loans, and bonds, if any are outstanding; and dividends on preferred stocks. In some cases, also, reserves must be set aside. The remainder is available for the common stockholders. Many investment company directors pursued a short-sighted policy in paying out too large a proportion of the net income as dividends. This policy was in some instances pursued to make it easy for the sponsors to sell the securities of a new company which they were organizing. In other cases it was simply due to a lack of sound business judgment. In paying out such a large proportion of net earnings in dividends, directors of investment companies violated the principles of dividend disbursement which characterized the growth of our largest and strongest business corporations. Consequently, when the decline in security prices began in October, 1929, and continued for nearly three years, investment companies were not fortified by reserves to meet the situation.

Many investment companies engaged in a financial and accounting legerdemain to meet the unusual situation in the security market and to continue dividend payments on their shares. This operation consisted of writing down the stated values of their shares of stock after securing the necessary permission from their shareholders. Such an accounting device reduced their liabilities for stock and increased their surplus.

The value of their securities was then written down to market values by charging the loss to the enlarged surplus. Many of the investment companies then paid dividends without technically impairing their capital. Possibly this procedure meets the requirements of state statutes which in general prohibit business corporations from paying dividends from capital, but it certainly means that part of the capital is being returned to the shareholder.

VIII. FUTURE OF THE INVESTMENT COMPANY

Before considering the future of investment companies in the United States it may not be amiss to point out their major mistakes. First, the whole movement expanded too rapidly. Many such companies were formed with little or no understanding of the principles upon which they should be operated. Many more were formed to bring their sponsors—bankers and brokers—large promoters' profits. The years prior to 1929 may be termed the promotion period. In this respect our investment company development resembled that of British investment companies. Their promotion period ended about 1894. A promotion period of any new business is generally characterized by extravagant claims of earning power, and a disregard of economic principles. Second, they showed poor judgment in their portfolio policy. The major error was in purchasing common stocks. Now it is doubtless true that the investment merits of common stocks had been neglected up to, say, 1923. They were doubtless undervalued. But this investment merit proved to be an investment demerit when a large demand for common stocks ensued. They then became overvalued, as subsequent events have proved. Despite the high prices of such securities in 1929, many investment companies bought them, and they have sustained large losses and heavy shrinkages in such purchases. It would have been much better had investment companies purchased substantial blocks of bonds at the time or, better still, kept their money in the banks. Finally, if investment company managers and directors did not know when the crash in the securities market was coming, they should at least have set aside reserves for such a contingency. The necessity for so doing was pointed out by the Attorney-General of New York in 1927, and an eminent authority on the subject called attention to this phase of investment com-

pany management at about the same time.¹ The secret of the success of the British companies has been to pay out but a small part of net earnings, to carry profits from security sales to a reserve, and to allow the income from these reserves to accumulate at compound interest. Instead of adopting this policy which had proved sound through many years, American investment companies paid out a very substantial part of their net income in dividends after including profits from security sales in their regular and recurring income.

The future of the investment companies in the United States will depend largely upon the ability of the managers to serve small investors. Their needs and interests should be the primary consideration in the formation and management of such companies. The form of organization, financial plan, portfolio policy, and dividend policy should be selected to meet their needs. Simplicity in the form of organization and financial plan make it possible for the small investor to have at least a handshaking acquaintance with his company. Where the form of organization is somewhat complex and the financial plan is complicated, there is a tendency for the small investor to think that the whole scheme has been adopted to make it possible for insiders to reap where they have not sown—a belief justified in many instances because of the exorbitant profits secured by promoters and the manner in which the financial plans of some investment companies have been rigged to suit the interests of the promoter-bankers. A financial plan which provides for one type of security—common stock with no classification or divisions—is not merely the simplest but it is the best. There is no danger of the failure of the company because of prior claims of bondholders or preferred stockholders; operating expenses are the only charges ahead of earnings on the common stock. Such a financial plan makes it easier to detect fraud and collusion; it tends to allay suspicion and distrust; it makes possible the distribution of earnings in about the same manner as a mutual savings bank, which also makes it appeal to the small investor.

The portfolios of many investment companies have suffered from banker domination. Many bankers have not hesitated to place in the portfolios of their investment companies securities

¹ L. R. Robinson, *British Investment Trusts* (Washington, Government Printing Office, 1923), pp 22-23.

which they have underwritten and in some cases been unable to sell. This practice may be beneficial, temporarily at least, to the banker, but it is far from fair to the investor. The unfortunate experience of Prince & Whitely Trading Corporation indicates the extreme measures brokers may frantically adopt to keep themselves afloat. This is always the danger where bankers and/or brokers manage the portfolios of investment companies that, as bankers, they want to sell securities which they have underwritten, when as managers of investment companies they ought to look after the interests of the investors. This Dr. Jekyll and Mr. Hyde relationship is nothing less than an attempt to serve two masters; and we may be sure that the banking master will prove all powerful when the strain comes. It is much sounder, therefore, for investment companies to be free and independent. This is one of the essentials for sound investment management.

Finally, the dividend policy of investment companies should be conservative. There is little or no justification for paying out all the net earnings in dividends. Reserves should be set aside for contingencies, and profits from security sales should not be included as regular and recurring income. Such a dividend policy buttresses the financial position of the company so that it will be in position to meet periods of adversity which recent experience shows are still with us. If these tenets are followed, the investment company should regain the good graces of the investing public and take its place in the financial family.

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APPENDIX¹

SUPPLY AND USE OF MEMBER BANK RESERVE FUNDS

For several years the Federal Reserve Board and the Federal Reserve banks have employed a method of presenting figures derived from Federal Reserve bank condition statements and from Treasury circulation statements organized in such a manner as to define the channels connecting banking and monetary conditions of the country with the Federal Reserve banks. These figures are presented in the form of a balanced statement, which shows the various currency and credit elements that correspond to increases or decreases in the supply of and in the demand for reserves of member banks.

The importance of factors of supply and use of member bank reserves lies in the fact that the ability of member banks to make loans or investments and their attitude in the matter are influenced by the availability to them of reserves and by the method through which these reserves are obtained. There is an important difference in cost, in liability, and in attitude of the banks between reserves obtained at the banks' initiative through discounting paper and reserves obtained either through open-market operations by the Reserve banks or through the inflow of gold from abroad or of currency from circulation.

The following table gives the various items which comprise the statement, together with the amount of each, expressed in millions of dollars, outstanding on June 29, 1935:

Factors supplying reserve funds:

Reserve bank credit outstanding—total	2,480
Bills discounted	6
Bills bought	5
U. S. Government securities	2,433
Other Reserve bank credit	37
Monetary gold stock	9,116
Treasury and national bank currency	2,506

Factors using reserve funds:

Money in circulation	5,568
Treasury cash and deposits with Federal Reserve banks	2,968
Nonmember deposits	325
Other Federal Reserve accounts	261
Member bank reserve balances held	4,979
Estimated required reserves	2,565
Estimated excess reserves	2,414

¹ Issued by the Board of Governors of the Federal Reserve System (Washington, United States Government Printing Office, 1935).

Computation of the various items comprising this statement has been previously explained in publications of the Board.¹ Within the last few years, however, there have been fundamental changes in the significance and relative importance of these items and also in the arrangement of the statement and in the content of individual items. The table shows them in the form now used. Subsequent paragraphs give first a discussion of the interrelationship of the various items and then a description of the source and derivation of each item and an explanation of the significance of each item.

This statement is in effect a consolidated balance sheet, combining the statement of condition of the Federal Reserve banks with such items in the circulation statement of the United States Treasury as have a direct relationship to the supply of or demand for reserve funds. All of the items except required and excess reserves are derived from these two statements. The need for combining the Federal Reserve bank statement with the circulation statement for the purpose here in view arises from the fact that the Treasury has important monetary and currency functions that have a direct effect on the volume of member bank reserves. At the end of this article these two basic statements for June 29, 1935, are given in slightly condensed form, together with other tables, which show the calculations by which the two statements are consolidated into one. All available figures by weeks, months, and years since 1917 are also shown in tables at the end of this article.

The sum of the three items, total Reserve bank credit, monetary gold stock, and Treasury and national bank currency, equals the sum of the other five items, money in circulation, Treasury cash and deposits with Federal Reserve banks, nonmember deposits, other Federal Reserve accounts, and member bank reserve balances held. The reason for the balancing character of the statement is implicit in the accounting method by which it is derived. The first three items may be considered as primary sources of reserve funds and the others as reflecting uses made of these funds. The ways in which changes in any of the items are connected with changes in other items, however, are different at different times. For example, sometimes the demand for reserve funds increases because an increase in member bank deposits increases their reserve requirements; at other times reserves increase because of an inflow of gold, a decrease in circulation, or open-market purchases by the Reserve banks, and the increase in member bank reserves may be absorbed by a commensurate growth in deposits and reserve requirements, or it may result in an accumulation of idle or excess reserves. The items are all

¹ See *Federal Reserve Bulletin*, July 1929, pp 427-433, and see also W. W. Riefler, *Money Rates and Money Markets in the United States* (New York, Harper & Brothers, 1930), Ch. VII and Appendix II.

mutually related, and changes in any one of them can be accounted for by balancing changes in the others. These interrelationships are illustrated in the charts on pages 390 and 392.

INTERRELATIONSHIP OF VARIOUS FACTORS

One line of classification of the items is according to whether changes in them are primarily and directly caused by actions of the member banks or the Federal Reserve banks or are the result of influences not directly controlled by member banks or Reserve banks. In the latter category belong gold movements, changes in money in circulation, and in Treasury cash and deposits with Reserve banks, in all of which the member banks and the Reserve banks are primarily passive. On the other hand there are changes in which the active element may be supplied by member banks, such as a growth in reserve requirements arising from a growth in deposits caused by an expansion of loans and investments; and there are other changes in which the active element is supplied by the Reserve banks, such as the purchase of securities in the open market.

Generally in the past, bills discounted, representing borrowings of member banks at the Reserve banks, have been the most significant element in the statement. When member banks have used all available reserves, any increase in reserve requirements, resulting from an expansion of deposits, makes it necessary for member banks to borrow from the Reserve banks. This was the case during most of the history of the Federal Reserve System until 1932.

Increases in those items which supply reserve funds—Reserve bank holdings of bills and of United States Government securities, monetary gold stock, and Treasury and national bank currency—enable member banks to repay borrowings, while decreases in these items result in increased borrowings. Increases in the items shown in the second group, on the other hand, reduce reserve funds and require an increase in borrowings, while decreases in these items enable member banks to reduce their borrowings.

When, as has been the case in more recent years, member banks are almost entirely out of debt at the Federal Reserve banks, changes in the various factors are reflected in the reserve balances of member banks, rather than in their borrowings. There are nearly always some banks that are holding a small amount of reserves in excess of requirements, but in the summer of 1931 and from April, 1932, to date, excess reserves held by member banks have been large and widely held, and since about the end of 1933 member bank indebtedness at the Reserve banks has been small in amount and confined to relatively few banks. When a number of member banks are borrowing at the Reserve banks and at the same time a large number are out of debt, as in 1931 and from April, 1932, to

the latter part of 1933, changes in the various reserve factors are in part reflected in borrowings and in part in excess reserves.

In the last half of 1933, there was a substantial increase in the total amount of Reserve bank credit, reflecting an increase in holdings of United States Government securities in excess of a reduction in bills discounted. This increase added to the supply of reserve funds available to member banks. In addition, since early in 1934, large gold imports have furnished member banks with a further supply of funds. In this situation member banks, having practically no borrowings to repay, added the additional reserve funds to their reserve balances. When during this period they lost funds for any reason, principally because of Treasury transactions or seasonal increases in money in circulation, their reserve balances were reduced while their borrowings being negligible were little affected. Since the increase that has taken place in this period in required reserves, as a result of expansion in member bank deposits, has not been as great as the increase in reserves held, member banks have held a growing amount of excess reserves.

As a consequence of these developments, member bank reserve balances, or more particularly excess reserves, have in recent years taken the place of the volume of discounts as the most significant element in the statement. In the practical absence of discounts, increases in those items shown in the statement as factors supplying reserves—the various types of Reserve bank credit, monetary gold stock, and Treasury and national bank currency—have had the effect of increasing member bank reserve balances, other factors remaining unchanged, while decreases in these items have reduced reserve balances. Increases in the second group of items—money in circulation, Treasury cash and deposits with Federal Reserve banks, nonmember deposits, and other Federal Reserve accounts—on the other hand, have resulted in reductions, and decreases in these items have resulted in increases in the supply of funds available for reserves.

The table on page 485 shows changes in the various items of the statement from June 30, 1934, to June 29, 1935, arranged in accordance with their effect upon member bank reserves. This form of table is useful in analyzing the effect of changes that occur in any period of time.

Further analysis of these interrelationships is given in a subsequent section dealing with the significance of the individual items in the statement.

DESCRIPTION OF ITEMS

The following paragraphs give a brief explanation of the source and nature of the figures used in measuring the various factors supplying and using reserve funds.

Factors Supplying Reserve Funds

Reserve Bank Credit. The total volume of Reserve bank credit outstanding represents principally the loans and investments of the Federal

SUPPLY AND USE OF MEMBER BANK RESERVE FUNDS
(In millions of dollars)

Items	June 30, 1934- June 29, 1935	
	Changes that added to reserves	Changes that reduced reserves
Items increases in which add to reserves:		
Reserve bank credit	+ 8	
Monetary gold stock	+1,260	
Treasury and national bank currency	+ 140	
Items increases in which reduce reserves:		
Money in circulation . . . . .	..	+195
Treasury cash and deposits with Federal Reserve banks	- 48	
Nonmember deposits . . . . .	..	+ 92
Other Federal Reserve accounts . . . . .	..	+ 29
Total	1,455	316
Net change in member bank reserve balances held	+1,139	
Net change in estimated required reserves	+ 457	
Net change in estimated excess reserves	+ 682	

Reserve banks. The various types of Reserve bank credit in use on June 29, 1935, are shown in Table 3 on page 499. They are:

1. *Bills discounted*, which represent principally rediscounts for and advances to member banks, although at times they include loans on gold to foreign central banks and advances to nonmember banks, to Federal intermediate credit banks, and to individuals, partnerships, and corporations under special legislation.

2. *Bills bought*, which represent bankers' and trade acceptances purchased by the Federal Reserve banks from bill dealers or banks, either outright or under resale agreements, and acceptances payable in foreign currencies purchased from foreign central banks and guaranteed by them.

3. *United States Government securities*, which are purchased by Federal Reserve banks in the open market. In recent years most of these securities have been held in the so-called System Special Investment Account, which is handled by the Federal Open Market Committee and is participated in by all of the Federal Reserve banks.

4. *Other Reserve bank credit*, which includes funds held on deposit in foreign banks; in recent months advances made for the purpose of providing working capital to industrial and commercial concerns in accordance with the provisions of Section 13b of the Federal Reserve Act; other securities such as Federal intermediate credit bank debentures and municipal warrants; and finally Federal Reserve bank float, which arises through transit items that are credited to the account of depositing banks prior to their actual collection by the Reserve bank.¹

Monetary Gold Stock. Monetary gold stock includes at the present time only gold held by the Treasury. Prior to January 30, 1934, monetary gold stock included gold held by the Treasury and by the Federal Reserve banks, except gold held under earmark for foreign account, and also included gold coin in circulation in the United States. The latter figure was estimated by taking into consideration imports and exports of gold coin, mintings, meltings, and the use of gold coin in the arts as well as payments of gold coin into circulation and withdrawals from circulation. On January 30, 1934, title to all gold held by Federal Reserve banks was transferred to the United States Government. The Federal Reserve banks now hold gold certificates or gold-certificate credits on the books of the Treasury, against which the Treasury holds gold. There is no circulation of gold coin, and all imports, exports, and changes in earmarkings of gold are immediately reflected in Treasury holdings.

¹ Federal Reserve bank float generally has a positive or debit balance, because in making interdistrict check collections the reserve balance of the depositing bank is credited according to a time schedule while the bank on which collection is being made at times is not charged until the following day. Exchanges for clearinghouse when received in the morning mail should, according to the time schedule, be collected the same day but often are not sorted until too late to be included in the clearings for that day, and it is this which usually gives rise to the debit balance. A negative or credit balance is shown by Federal Reserve float when items are charged against a member bank reserve balance or otherwise collected prior to being credited to the account of another member bank. This situation happens chiefly in connection with the interdistrict collection of noncash items, such as notes, but also whenever the actual collection of checks is made prior to expected collection according to the time schedule, which may occur when there is a bank holiday in some districts but not in others.

Beginning January 31, 1934, the estimated figure of gold coin in circulation, amounting to \$287,000,000, was excluded from monetary gold stock and from money in circulation.¹ Figures prior to January 31, 1934, and subsequent to 1913, have recently been revised to exclude the \$287,000,000 of gold coin, leaving the remainder of gold coin in circulation in the published figures. For the earlier years the resulting figure is probably an understatement of gold coin actually in circulation, but fluctuations in the total, which alone are important from the standpoint of this analysis, are not affected by this revision.

Treasury and National Bank Currency. Treasury and national bank currency outstanding measures the contribution of the Treasury and the national banking system to the currency supply of the country. It represents the stock of money for which the Treasury is primarily responsible, comprising standard silver dollars, silver bullion against the pledge of which silver certificates and Treasury notes of 1890 are outstanding, subsidiary silver and minor coin, United States notes, national bank notes, and the Federal Reserve bank notes for the retirement of which funds have been deposited with the Treasurer of the United States.² Since March, 1935, all Federal Reserve bank notes outstanding have been in this category. These various items as of June 29, 1935, are shown in Table 4. These figures include the currency of these kinds that is held in the Treasury and the Federal Reserve banks as well as

¹ The reasons for this change were as follows: (1) The amount of gold coin previously reported as "in circulation" is known to have been overstated during recent years by the amount of such coin that in course of time had been lost, destroyed, or exported without record; (2) the results of official efforts during the war to concentrate gold and since March, 1933, to secure its return from private hoards have indicated that the overstatement has been large; (3) the Treasury order of December 28, 1933, requiring surrender of all gold coin (with minor exceptions) in effect prohibits anyone from using gold coin for circulation or from having it in his possession; and (4) under the Gold Reserve Act of 1934, effective January 30, no gold coin may henceforth be put into circulation. Gold coin outside of the United States Treasury, therefore, is no longer a part of monetary gold stock or of money in circulation.

² Those Federal Reserve bank notes which were not covered by lawful money deposited with the Treasury and were, therefore, liabilities of the Federal Reserve banks are not included in Treasury currency. Federal Reserve bank notes of this sort were outstanding prior to June, 1924, and again from March, 1933, to March, 1935. When issuance of Federal Reserve bank notes was discontinued, liability for the retirement of outstanding notes was transferred to the Treasury. During the period when this was taking place the item of Treasury currency included such Federal Reserve bank notes as were covered by deposits for their retirement made by the Reserve banks with the Treasury. For example, on December 31, 1934,

that in circulation. Treasury currency does not include Federal Reserve notes, gold coin, or gold certificates.

National bank notes, formerly issued by national banks upon pledge of Government bonds, were liabilities of issuing banks until lawful money was deposited with the Treasury for their retirement. For the sake of simplicity all national bank notes were combined with Treasury currency. Since August 1, 1935, there have been no bonds bearing the circulation privilege, and liability for all national bank notes rests with the Treasury. These notes are being retired as they are returned to the Treasury. All of the types of currency included in this item are now, strictly speaking, Treasury currency.

Because of the interplay between "Treasury and national bank currency" and "Treasury cash and deposits with Federal Reserve banks," discussed below, and because of the smallness of changes in each, the two items were combined prior to February, 1934, in one item called "Treasury currency adjusted." The increase in Treasury cash resulting from reduction in the gold content of the dollar, explained below, made "Treasury currency adjusted" a negative figure. This necessitated division into two separate items. In addition, the new issues of silver certificates beginning in 1934 and the retirement of national bank notes now in process make "Treasury and national bank currency" an important separate item.

Factors Using Reserve Funds

Money in Circulation. The figures for money in circulation include all kinds of United States money outside of the Reserve banks and the Treasury, with the exception that gold and silver coin known to have been exported was always excluded and beginning January 31, 1934, all gold coin outstanding has been excluded. Detailed items are shown in Table 2. The figures include, therefore, not only money held by the public but vault cash held by banks and such United States money as may have been carried or shipped abroad, other than gold and silver coin known to have been exported. For reasons explained above in connection with monetary gold stock, figures previously published for the

the situation as regards Federal Reserve bank notes was as follows:

Amount outstanding (from circulation statement)	\$118,762,000
Amount issued to Federal Reserve banks (from Federal Reserve bank statement)	37,590,000
Amount covered by deposits for retirement (included in Treasury and national bank currency)	81,172,000

period from January, 1914, to January, 1934, have been revised to exclude \$287,000,000 of gold coin.¹

Treasury Cash and Deposits with Federal Reserve Banks. This item represents the cash assets which the Treasury has at its disposal without drawing on balances with depository banks. Treasury deposits with Federal Reserve banks represent the general account of the United States Treasurer with the Reserve banks. Treasury cash includes gold bullion, silver and minor coin, and currency held in the Treasury, excepting (1) gold held against gold certificates, (2) silver held against silver certificates and Treasury notes of 1890, and (3) gold held for Federal Reserve banks. The various components are shown in Table 5.

The item of Treasury cash was increased by \$2,800,000,000 after the close of business on January 31, 1934, as a result of reduction in the gold content of the dollar. Since the value of the monetary gold stock was correspondingly increased at the same time, this transaction in and of itself had no effect on the amount of member bank reserve balances.

Nonmember Deposits. This item includes all deposits with the Reserve banks other than the Treasury general account and member bank reserve balances. It includes deposits for nonmember banks and for others, such as foreign central banks and governments, and in 1933 and 1934 it also included special deposits held for unlicensed member and nonmember banks.

Other Federal Reserve Accounts. This item, formerly designated as "Unexpended capital funds of Federal Reserve banks," is derived from the condition statement of the Federal Reserve banks by adding "capital," "surplus," "reserve for contingencies," and "all other

¹ No correction was made in the money in circulation figures for the removal of gold certificates, since the reasons for the elimination of gold coin figures do not appear to hold as regards gold certificates. (1) Gold certificates appear to resemble in this respect other types of hoarded currency rather than gold coins; gold certificates have continued to come back from circulation throughout the past year, whereas the return flow of gold coin has practically ceased. (2) On June 29, 1935, about \$44,000,000 of the old large-size series were outstanding; thus the maximum adjustment of gold certificates in 1929, when issuance of large-size currency was discontinued, would be \$44,000,000, and since this figure is constantly being reduced, a smaller amount would have to be chosen. (3) Until the currency disorders of the European countries in the postwar period gold certificates were seldom exported or imported; consequently, there is no presumption of error in the circulation figures of gold certificates arising from erroneous reports of exports and imports, as there is in the case of gold coin, which regularly moved in and out of the country. (4) Finally, gold certificates have no intrinsic value and cannot be reduced to bullion and taken out of the country as is the case with gold coin.

liabilities" of the Reserve banks, and subtracting the sum of "bank premises" and "all other assets." Since some components of these items in earlier years were carried in accounts other than those in which they now appear, adjustments have been made to bring the entire series into conformity with the current figures. The computation of this figure as of June 29, 1935, is shown in Table 7.

Member Bank Reserve Balances. Member bank reserve balances as shown on the Federal Reserve bank condition statement represent reserve balances actually held by member banks at Federal Reserve banks. Figures for required reserves and excess reserves are not shown on the Reserve bank statement and must be derived from reports obtained from member banks as to their deposits.

1. *Reserve Balances Held.* These comprise deposits held by member banks with the Reserve banks. Since August, 1917, only balances with the Federal Reserve banks have counted as legal reserves of member banks.

2. *Estimated Required Reserves.* Reserves required by law to be held against net demand deposits amount to 13 per cent for central reserve city banks in New York and Chicago, 10 per cent for reserve city banks, and 7 per cent for country banks; all banks are required to hold 3 per cent against their time deposits. Under Board regulations, in assessing penalties for reserve deficiencies, reserves held are not required to equal the legal minimum at all times but over certain designated periods of time must average enough to cover the average minimum requirements. Reserves held each day and those required are averaged semiweekly in the case of banks in Federal Reserve bank and branch cities and also in a few other designated reserve cities; they are averaged weekly for banks in other reserve cities and semimonthly for all country banks. For this reason on any given day reserves held may be substantially above or below computed requirements. Reports as to deposits and required reserves are not currently obtained every day from all member banks. Approximate figures for required reserves are computed on the basis of daily reports of deposits from certain member banks in New York City, weekly reports from certain banks in other leading cities, and monthly reports from other member banks.

3. *Estimated excess reserves* represent the difference between reserves actually held and the estimated required reserves.

SIGNIFICANCE OF INDIVIDUAL ITEMS

Each of these items has a direct and measureable effect upon the balanced statement, in that a change in one item is always offset by a corresponding change in one or more other items. Each of them, however, represents factors which may result from different influences and

which may set into operation different forces. The effects of changes in the various items upon market conditions and indirectly upon the other items are of considerable importance, and knowledge of them makes the balanced statement useful in analyzing banking and credit conditions. Some of the more important effects are pointed out in the following paragraphs. The items are discussed in the order in which they are described in the previous section.

Factors Supplying Reserve Funds

Reserve Bank Credit. All of the various types of Reserve bank credit place funds at the disposal of member banks to be used by them to meet demands for currency, export demands for gold, or Treasury withdrawals, or to build up reserve balances. From the standpoint of banking and credit policy, however, each of the three major types of Reserve bank credit is of different significance.

1. *Bills Discounted.* An increase in the amount of member bank borrowing generally indicates that a loss of reserve funds or an increase in required reserves has forced member banks to obtain additional reserves by borrowing, while a decrease in borrowing indicates that additional reserve funds have become available through some other channel or that required reserves have declined. There is a well-established tradition among member banks against being continuously in debt to the Reserve bank, and member banks usually try to keep their borrowings as small as possible. This tradition is based in part upon the fact that a member bank is liable for assets rediscounted or pledged against advances, and in part upon the indication which long-continued borrowing gives that the bank is not in a strong condition.

Consequently, when a member bank is in debt it is hesitant about extending additional credit and is likely to call loans or sell investments for the purpose of obtaining funds to repay borrowings. When one bank contracts its loans and investments, total bank deposits are reduced or reserves are obtained from other banks which either draw on excess reserves or increase their borrowings.

The pressure which increased borrowings on the part of member banks exert is indicated by money-market developments. When member banks are heavily in debt money rates rise, particularly in the well-organized open markets, reflecting efforts of member banks to obtain reserve funds by calling loans or selling investments. When member bank borrowing is small and confined to relatively few banks, money rates are low. If these conditions continue for an extended period, bond yields and rates charged by banks on loans to customers also begin to change. It is because of the tradition against borrowing at the Reserve

banks and because of repercussions in the money market that the item of bills discounted is under ordinary conditions the most important item in the consolidated statement.

2. *Bills Bought.* All prime bankers' acceptances offered for sale by member banks or dealers are purchased by Federal Reserve banks at a fixed rate. Federal Reserve banks never sell acceptances, except when they have acquired them under resale agreements; decreases in their outright holdings are the result of an excess of maturities over new purchases. Increases in holdings of acceptances reflect in part market conditions, such as the supply of acceptances available and the need of banks for reserve funds, and in part differentials between market rates and Federal Reserve bank buying rates. Buying rates are a matter of Reserve bank policy.

In general, it may be said that the need for reserves forces member banks, in the first instance, either to borrow at the Reserve banks or to sell acceptances to the Reserve banks; which of these alternatives they adopt depends upon a number of factors. In the past the Reserve bank buying rates for bills have generally been close to or below market rates and below the discount rate of the Federal Reserve Bank of New York, where most of the transactions occur. Although member banks may have some objection to selling bills, because of liability on their endorsement, it is not as strong as their feeling against borrowing. As a consequence, banks in need of reserves prefer to sell acceptances to the Reserve bank rather than borrow. In the autumn when both the supply of acceptances and the demand for reserves are seasonally large the Reserve banks have ordinarily held a large portion of available acceptances.

At times, however, member banks as a group may be borrowing in considerable amount and at the same time may hold a substantial volume of acceptances. Banks needing funds for only a few days sometimes prefer to borrow rather than sell acceptances with longer maturities. Acceptances are held chiefly by the large money-market banks, which ordinarily borrow only a few days at a time, and many of the banks needing reserves may hold no acceptances and, therefore, may have to borrow.

3. *United States Government Securities.* Changes in Reserve bank holdings of United States Government securities reflect action taken entirely at the initiative of the Reserve banks, except when United States Government securities are purchased from dealers under resale agreements or from the Treasury in the form of 1-day certificates to offset temporary overdrafts. These securities are paid for by officers' checks of the Federal Reserve banks, which upon presentation are credited to the reserve accounts of member banks. By purchasing

securities Reserve banks may supply member banks with funds to reduce their borrowings, to increase their reserves, or to meet withdrawals of currency, gold, or Treasury funds without borrowing or losing reserves. Sales of securities by the Reserve banks, on the other hand, reduce member bank reserves and may force them to borrow. This item is important, therefore, because, together with changes in discount and bill-buying rates, it is an indication of the policy that is being followed by the Federal Reserve System, and shows whether prevailing conditions are primarily reflections of developments in the market or of active intervention by the Federal Reserve banks.

Monetary Gold Stock. Increases in the monetary gold stock of the United States are one of the most important sources of reserve funds. Additions to the gold stock furnish funds to member banks and enable them, other factors remaining unchanged, to increase correspondingly their reserve balances or to reduce their borrowings at Reserve banks. Reductions in gold stock have the opposite effect. Increases in gold stock, therefore, tend to ease conditions in the money market, while decreases tend to tighten them.

As previously explained, the large increase in monetary gold stock resulting from revaluation of the dollar on January 31, 1934, represented a revaluation of existing gold holdings and was reflected in a corresponding increase in Treasury cash without immediate effect upon the amount of member bank reserve balances.

Treasury and National Bank Currency. New issues of national bank notes supplied currency directly to national banks and enabled these banks to deposit an equivalent amount of currency to the credit of their reserve balances at the Federal Reserve banks. New issues of Treasury currency and redemptions of both Treasury and national bank currency are made by the Treasury, however, and their effect upon member bank reserves or borrowings operates through a more involved process. Changes in Treasury currency often take place in conjunction with changes in Treasury cash and deposits with Federal Reserve banks. When the Treasury issues new currency it either places the currency in its cash holdings or deposits it with Federal Reserve banks. When the funds thus made available to the Treasury through the increase in Treasury currency are disbursed by the Treasury, Treasury cash and deposits are reduced and reserve balances of member banks are increased. When Treasury currency is retired redemption is made by drawing down deposits with Federal Reserve banks; to replenish these deposits the Treasury ordinarily withdraws funds from its deposits with member banks and thus reduces member bank reserves. In this manner increases in Treasury currency indirectly tend to increase member bank reserve balances while decreases tend to have the opposite effect.

Factors Using Reserve Funds

Money in Circulation. Currency needed for cash purchases, pay rolls, pocket change, or till money is withdrawn by the public from banks, which in turn obtain it from the Federal Reserve banks, giving some value in exchange. Thus, increases in money in circulation result in a reduction in member bank reserves or an increase in their borrowings, while a decrease in currency permits member banks to increase their reserves or reduce their borrowings. Money in circulation ordinarily shows significant seasonal changes, and from 1931 to 1933 when there were large withdrawals of currency from banks for hoarding it was a factor of especial importance.

Treasury Cash and Deposits with Federal Reserve Banks. Substantial changes in the amount of cash held by the Treasury and in its deposits with Federal Reserve banks exert an important, although generally temporary, influence on the amount of member bank reserves or borrowings. Additions to this item usually result in a decrease in reserves or an increase in borrowings, while reductions have the opposite effect, although often changes in this item are partly offset by changes in Treasury currency.

Disbursements of the Government are made largely by checks drawn on Treasury balances maintained with Reserve banks; these checks are deposited by member banks with the Reserve banks, and member bank reserves are increased thereby. Tax receipts are deposited by the Treasury in its account at the Reserve banks, and collection is made through a charge against the reserve accounts of member banks. The sale of public-debt securities by the Treasury for cash similarly results in an increase in Treasury deposits at the Reserve banks and a reduction in member bank reserves. Sales of short-term Treasury bills and sales of all new Government securities to investors other than banks are generally made on an immediate payment basis. On the other hand, sales of longer term United States Government securities to banks are generally paid for by deposit credits to the account of the Treasury at the banks purchasing the securities. These transactions have no immediate effect upon member bank reserves. As the Treasury requires funds, however, withdrawals are made from the depository banks and the amounts are placed to the credit of the Treasury at the Federal Reserve banks. These transfers increase Government deposits at the Reserve banks and reduce member bank reserve balances.

Figures for cash held by the Treasury and for Treasury deposits with the Reserve banks are combined into one item, rather than shown separately, because a number of Treasury transactions involve merely a transfer of funds from one of these categories to the other without having any effect upon member bank reserves or borrowings. An increase in

Treasury deposits at Reserve banks as a result of a transfer of gold certificates or of gold-certificate credits from the Treasury to the Reserve banks, for example, does not affect the volume of member bank reserves; it merely diminishes Treasury cash and correspondingly increases Government deposits with the Reserve banks.

When gold is received by the Treasury from imports or otherwise, the Treasury purchases the gold through the issuance of a check drawn upon its account at a Federal Reserve bank. This check is deposited by the seller of the gold and finds its way to the Federal Reserve bank where it is charged to the Treasury's account. The deposit of the United States Treasury consequently is reduced on the books of the Federal Reserve bank and a credit is given to the reserve account of a member bank. At this point the gold received by the Treasury has resulted in an increase of monetary gold stock and of member bank reserve balances; Treasury cash has also increased and Treasury deposits at the Reserve banks decreased, with no change in the total of these two. Subsequently, the Treasury may restore its deposits at the Reserve banks by transferring to them gold certificates or gold-certificate credits. This transaction decreases Treasury cash and increases Treasury deposits at the Reserve banks without changing the total of these two items. It results in an increase in Reserve bank holdings of "gold certificates on hand and due from United States Treasury," an item that is not included as such in the reserve analysis.

The addition to Treasury cash of the increment resulting from reduction in the gold content of the dollar was offset by a corresponding increase in monetary gold stock, as previously explained, and had no immediate effect upon the amount of member bank reserve balances. When payments are made from this increment for various purposes—for the account of the exchange stabilization fund, for example—other items in the statement are affected, and to the extent that such funds are paid out to the public, member bank reserves are increased.

Under Section 13b of the Federal Reserve Act, as amended, the Secretary of the Treasury from time to time transfers to each Federal Reserve bank, from the increment that has resulted from revaluation, gold certificates or gold-certificate credits against advances and commitments made by the Reserve banks to provide working capital for industrial and commercial concerns. These transfers, which by June 29, 1935, had amounted to about \$21,000,000 reduce Treasury cash and increase Reserve bank surplus, which is included in other Federal Reserve accounts. Member bank reserves are increased when the advances are made by the Reserve banks; these advances are included in other Reserve bank credit.

Nonmember Deposits. Since these deposits are usually built up out of funds transferred from member banks, an increase in this item is

likely to result in a decrease in member bank reserves or an increase in borrowings, while a decrease has an opposite effect. Sometimes, however, changes in these deposits may be reflected in changes in monetary gold stock, in Reserve bank holdings of bills and securities, or in Treasury cash and deposits with Reserve banks.

Other Federal Reserve Accounts. This item measures the amount of funds taken out of the market directly or indirectly by Reserve bank capital, "other liabilities," and earnings in excess of the amounts paid out by the Reserve banks for bank premises, "other assets" and expenses.

Member Bank Reserve Balances. As previously explained, prior to 1931 aggregate reserve balances of member banks were usually kept close to the minimum required by law, and member banks did not carry any considerable volume of excess reserves. Reserve balances fluctuated largely with changes in member bank deposit liabilities, which chiefly reflected changes in member bank loans and investments. When member banks do not hold excess reserves and reserve requirements increase, there is a corresponding increase in member bank borrowings, while a decline in reserve requirements results in a decrease in borrowings.

When member banks are holding excess reserves and are practically out of debt at the Reserve banks, as is the case at present, changes in required reserves do not affect the amount of borrowings or the amount of reserves actually held, but are reflected in the volume of excess reserves. When member banks are out of debt at Reserve banks, reserve balances actually held are the residual of the other factors previously described, and excess reserves reflect the net effect of all these factors and required reserves.

Excess reserves indicate the extent to which member banks may legally expand their loans and investments without having recourse to the Federal Reserve banks. When a bank increases its loans and investments, its own or other banks' deposits increase by a similar amount, unless there are offsetting influences and the additional deposits cause an increase in reserve requirements.

DERIVATION OF STATEMENT

The following series of tables show how the consolidated statement for June 29, 1935, is derived from the two basic statements—(1) Statement of Condition of Federal Reserve Banks and (2) Circulation Statement of United States Money. It will be noted that there are certain items appearing in the two statements but not included in the analysis. The reason for this is that they are not of direct significance in relation to reserves and are offsetting accounts.

TABLE 1.—STATEMENT OF CONDITION OF FEDERAL RESERVE BANKS,
JUNE 29, 1935
(In thousands of dollars)

Assets	
Gold certificates on hand and due from U. S.	
Treasury	6,180,188 (a)
Redemption fund—Federal Reserve notes	22,882 (a)
Other cash	222,979 (b)
Bills discounted	5,769 (3)
Bills bought	4,689 (3)
Industrial advances.	27,638 (3)
U. S. Government securities	2,432,746 (3)
Due from foreign banks .	633 (3)
Reserve bank float .	8,548 (3)
Federal Reserve notes of other Reserve banks	18,951 (c)
Uncollected items not included in float.	511,095 (d)
Bank premises . .	49,826 (7)
All other assets. . . .	43,197 (7)
Total assets	<u>9,529,141</u>
Liabilities	
Federal Reserve notes:	
Held by other Federal Reserve banks	18,951 (c)
Outside Federal Reserve banks	3,238,889 (e)
Member bank deposits—reserve account	4,978,770 (8)
U. S. Treasurer—general account	102,235 (5)
Foreign bank deposits .	23,772 (6)
Other deposits	301,218 (6)
Deferred availability items	511,095 (d)
Capital paid in	146,575 (7)
Surplus (Sec. 7) . .	144,893 (7)
Surplus (Sec. 13b) . .	20,870 (7)
Reserve for contingencies	30,777 (7)
All other liabilities . .	11,096 (7)
Total liabilities	<u>9,529,141</u>

NOTE.—The numbers beside the various items indicate the tables to which they are transferred. The letters indicate offsetting items, all of which are in Tables 1 and 2.

TABLE 2.—CIRCULATION STATEMENT OF UNITED STATES MONEY, JUNE 29, 1935
(In thousands of dollars)

Kind of money	Total amount	Money held in the Treasury				Money outside of the Treasury	
		Amount held as security against gold and silver certificates and Treasury notes of 1890	Reserve against U. S. notes and Treasury notes of 1890	Held for Federal Reserve banks and agents	All other money	Held by Federal Reserve banks and agents	In circulation
Gold certificates	9,115,643 (8) 6,520,256	6,320,236	156,039 (5)	5,532,590 (a)	2,639,368 (5)	670,470 (a)	117,167
Standard silver dollars	545,642 (4)	505,470	.. . . .	.. . . .	4,454 (5)	3,409 (b)	32,309
Silver bullion	313,309 (4)	305,725	.. . . .	.. . . .	7,584 (5)	.. . . .	701,474
Silver certificates	810,014	.. . . .	.. . . .	.. . . .	.. . . .	108,539 (b)	1,182
Treasury notes of 1890	1,152	.. . . .	.. . . .	.. . . .	.. . . .	.. . . .	.. . . .
Subsidiary silver	313,424 (4)	.. . . .	.. . . .	.. . . .	4,777 (5)	11,866 (b)	296,780
Minor coin	133,039 (4)	.. . . .	.. . . .	.. . . .	4,636 (5)	3,278 (b)	125,125
United States notes	346,681 (4)	.. . . .	.. . . .	.. . . .	1,884 (5)	59,379 (b)	285,417
Federal Reserve notes	3,492,854 (c)	.. . . .	.. . . .	.. . . .	15,975 (5)	253,966 (e)	3,222,913
Federal Reserve bank notes	84,354 (4)	.. . . .	.. . . .	.. . . .	1,584 (5)	1,301 (b)	81,470
National bank notes	769,096 (4)	.. . . .	.. . . .	.. . . .	29,629 (5)	35,203 (b)	704,263
Total	15,114,042	7,131,431	156,039	5,532,590	2,709,891	1,147,422	5,568,100 (8)

NOTE 1.—Figures in italics are not included in the total since the gold or silver held as security against gold and silver certificates and Treasury notes of 1890 is included under gold, standard silver dollars, and silver bullion.

NOTE 2.—The numbers beside the various items indicate the tables to which they are transferred. The letters indicate offsetting items, all of which are in tables 1 and 2.

TABLE 3.—RESERVE BANK CREDIT OUTSTANDING, JUNE 29, 1935
(*In thousands of dollars*)

Bills discounted	5,769 (1)
Bills bought . . .	4,689 (1)
U. S. Government securities	2,432,746 (1)
Other Reserve bank credit	36,819
Industrial advances. . .	27,638 (1)
Due from foreign banks	633 (1)
Reserve bank float	8,548 (1)

Total . . .	2,480,023
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NOTE.—The numbers beside the various items indicate the tables *from* which they are transferred

TABLE 4.—TREASURY AND NATIONAL BANK CURRENCY, JUNE 29, 1935
(*In thousands of dollars*)

Standard silver dollars	545,642 (2)
Silver bullion. . .	313,309 (2)
Subsidiary silver.	313,424 (2)
Minor coin. . .	133,039 (2)
U. S. notes...	346,681 (2)
Federal Reserve bank notes	84,354 (2)
National bank notes	769,096 (2)

Total . . .	2,505,545
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NOTE.—The numbers beside the various items indicate the tables *from* which they are transferred

TABLE 5.—TREASURY CASH AND DEPOSITS WITH FEDERAL RESERVE BANKS,
JUNE 29, 1935
(*In thousands of dollars*)

Gold reserve against U. S. notes and Treasury notes of 1890...	156,039 (2)
Gold in general fund and exchange stabilization fund....	2,639,368 (2)
Standard silver dollars	4,454 (2)
Silver bullion	7,584 (2)
Subsidiary silver	4,777 (2)
Minor coin	4,636 (2)
U. S. notes	1,884 (2)
Federal Reserve notes.	15,975 (2)
Federal Reserve bank notes	1,584 (2)
National bank notes	29,629 (2)

Total Treasury cash.	2,865,930
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U. S. Treasurer—general account (deposits with Federal Reserve banks)	102,235 (1)
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Total	2,968,165
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NOTE.—The numbers beside the various items indicate the tables *from* which they are transferred.

TABLE 6.—NONMEMBER DEPOSITS, JUNE 29, 1935

(In thousands of dollars)

Foreign bank deposits.	23,772 (1)
Other deposits.	301,218 (1)
Total	324,990

NOTE—The numbers beside the various items indicate the tables *from* which they are transferred

TABLE 7.—OTHER FEDERAL RESERVE ACCOUNTS, JUNE 29, 1935

(In thousands of dollars)

Capital paid in	146,575 (1)
Surplus (Sec. 7)	144,893 (1)
Surplus (Sec. 13b).	20,870 (1)
Reserve for contingencies	30,777 (1)
All other liabilities.	11,096 (1)
Total	354,211
Bank premises.	49,826 (1)
All other assets	43,197 (1)
	93,023
	261,188

NOTE—The numbers beside the various items indicate the tables *from* which they are transferred.

TABLE 8.—SUPPLY AND USE OF MEMBER BANK RESERVE FUNDS, JUNE 29, 1935

(In millions of dollars)

Factors supplying reserve funds:	
Reserve bank credit outstanding	2,480 (3)
Monetary gold stock	9,116 (2)
Treasury and national bank currency.	2,506 (4)
Factors using reserve funds:	
Money in circulation	5,568 (2)
Treasury cash and deposits with Federal Reserve banks	2,968 (5)
Nonmember deposits	325 (6)
Other Federal Reserve accounts	261 (7)
Member bank reserve balances	4,979 (1)

NOTE—The numbers beside the various items indicate the tables *from* which they are transferred.

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